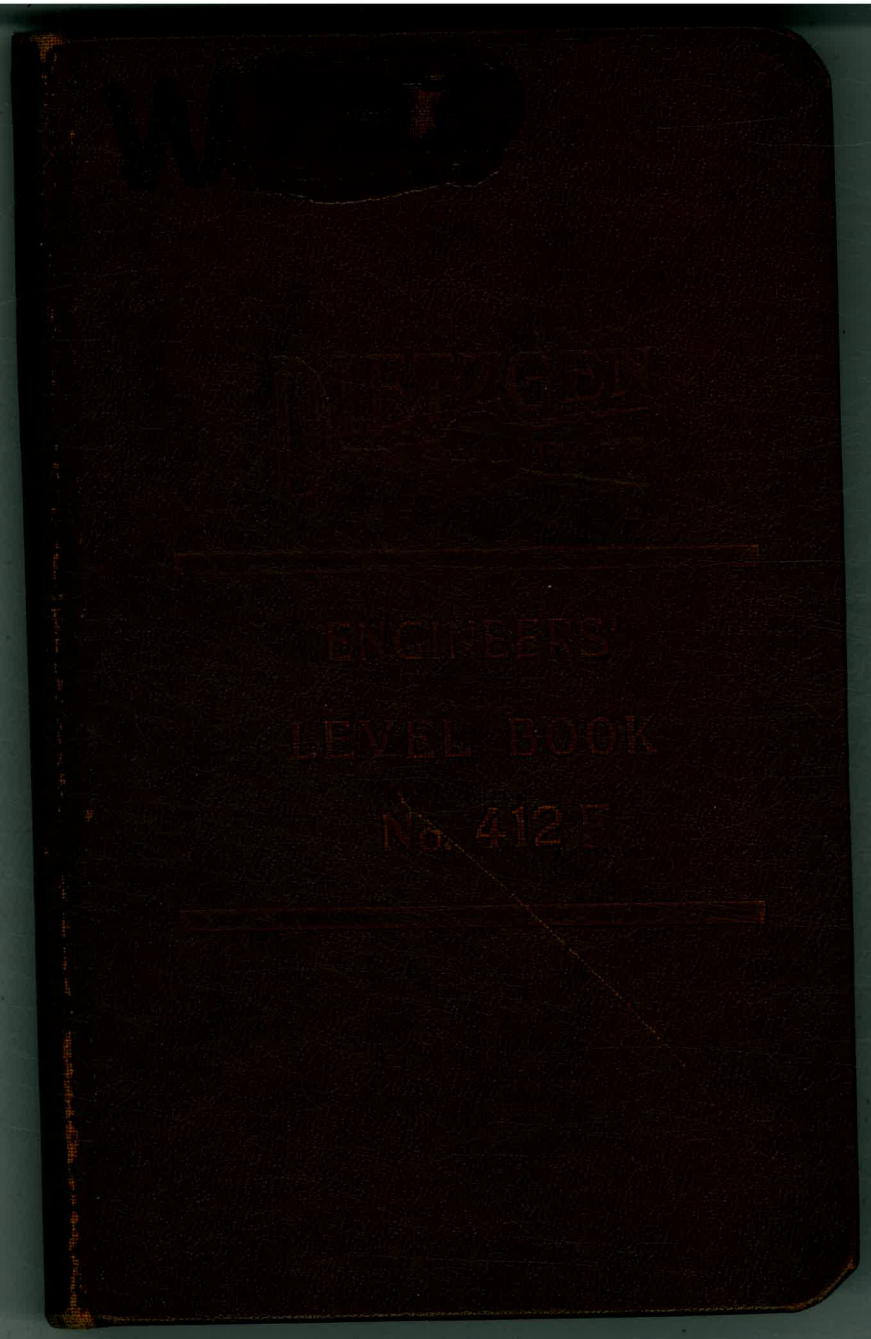

ENGINEERS
LEVEL BOOK
No. 412 F

#723

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1.

For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	0
1	9.0	9.1	9.2	9.3	9.4	9.5	9.6	9.7	9.8	9.9	1
2	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	2
3	11.0	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	3
4	12.0	12.1	12.2	12.3	12.4	12.5	12.6	12.7	12.8	12.9	4
5	13.0	13.1	13.2	13.3	13.4	13.5	13.6	13.7	13.8	13.9	5
6	14.0	14.1	14.2	14.3	14.4	14.5	14.6	14.7	14.8	14.9	6
7	15.0	15.1	15.2	15.3	15.4	15.5	15.6	15.7	15.8	15.9	7
8	16.0	16.1	16.2	16.3	16.4	16.5	16.6	16.7	16.8	16.9	8
9	17.0	17.1	17.2	17.3	17.4	17.5	17.6	17.7	17.8	17.9	9
10	18.0	18.1	18.2	18.3	18.4	18.5	18.6	18.7	18.8	18.9	10
11	19.0	19.1	19.2	19.3	19.4	19.5	19.6	19.7	19.8	19.9	11
12	20.0	20.1	20.2	20.3	20.4	20.5	20.6	20.7	20.8	20.9	12
13	21.0	21.1	21.2	21.3	21.4	21.5	21.6	21.7	21.8	21.9	13
14	22.0	22.1	22.2	22.3	22.4	22.5	22.6	22.7	22.8	22.9	14
15	23.0	23.1	23.2	23.3	23.4	23.5	23.6	23.7	23.8	23.9	15
16	24.0	24.1	24.2	24.3	24.4	24.5	24.6	24.7	24.8	24.9	16
17	25.0	25.1	25.2	25.3	25.4	25.5	25.6	25.7	25.8	25.9	17
18	26.0	26.1	26.2	26.3	26.4	26.5	26.6	26.7	26.8	26.9	18
19	27.0	27.1	27.2	27.3	27.4	27.5	27.6	27.7	27.8	27.9	19
20	28.0	28.1	28.2	28.3	28.4	28.5	28.6	28.7	28.8	28.9	20
21	29.0	29.1	29.2	29.3	29.4	29.5	29.6	29.7	29.8	29.9	21
22	30.0	30.1	30.2	30.3	30.4	30.5	30.6	30.7	30.8	30.9	22
23	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7	31.8	31.9	23
24	32.0	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	24
25	33.0	33.1	33.2	33.3	33.4	33.5	33.6	33.7	33.8	33.9	25
26	34.0	34.1	34.2	34.3	34.4	34.5	34.6	34.7	34.8	34.9	26
27	35.0	35.1	35.2	35.3	35.4	35.5	35.6	35.7	35.8	35.9	27
28	36 0	36.1	36.2	36.3	36.4	36.5	36.6	36.7	36.8	36.9	28
29	37.0	37.1	37.2	37.3	37.4	37.5	37.6	37.7	37.8	37.9	29
30	38.0	38.1	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.9	30
31	39.0	39.1	39.2	39.3	39.4	39.5	39.6	39.7	39.8	39.9	31
32	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9	32
33	41.0	41.1	41.2	41.3	41.4	41.5	41.6	41.7	41.8	41.9	33
34	42.0	42.1	42.2	42.3	42.4	42.5	42.6	42.7	42.8	42.9	34
35	43.0	43.1	43.2	43.3	43.4	43.5	43.6	43.7	43.8	43.9	35
36	44.0	44.1	44.2	44.3	44.4	44.5	44.6	44.7	44.8	44.9	36
37	45.0	45.1	45.2	45.3	45.4	45.5	45.6	45.7	45.8	45.9	37
38	46.0	46.1	46.2	46.3	46.4	46.5	46.6	46.7	46.8	46.9	38
39	47.0	47.1	47.2	47.3	47.4	47.5	47.6	47.7	47.8	47.9	39
40	48.0	48.1	48.2	48.3	48.4	48.5	48.6	48.7	48.8	48.9	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 30.6. For same slopes but other widths of roadbed, correct above figures by one-half difference in width of roadbed; thus in example above, for 20 ft. roadbed distance will be 30.6+(20—16)÷2 or 2 ft. added to 30.6 =32.6. For slopes of 1 on 1½ see inside of back cover.

P.P. at Lake Murray
97.77'

deducted To p. 65 - m 02/27/48

" To P. 79 Con 1-30-51

Alignment of Ditch (Murray) P26

Tie to Axis of Filtration

Plant, Ditch + 5' slope of

Embankment P35

Typical Section of Ditch P36

Cross sections of RAMP Left
in Reservoir East End. P 38

Final X sections Murray
Embankment 40-41.

Final X-Sec Y. North Slope 42-64
Regulating RESERVOIR

Final X sections of Fill West of
regulating reservoir & near
54" Valve box 65

TIE - EUCALYPTUS P.L. TO
FILTRATION PLANT AXIS 37

TOPOGRAPHY ON EDGES OF ALVARADO

FILTRATION PLANT SITE 66-72

OVER-FLOW SYPHON ELEV. ON MURRAY DAM. 79.
KIONA DR. TO TRUCK SCALE.

PROFILE & X-SECT PROPOSED ROAD 76.

1. * Profile X section

Alvarado Reservoir

0+20

B.M. on P Pole				507.98
	12.77	520.75		
Baseline (Undisturbed to South)				
0 N-0 S			0.17	520.58
3.3' N			6.2	514.5
74' N			9.8	511.0
89' N			14.9	505.8
T.P.			12.54	508.21
	0.22	508.43		
96' N			4.2	504.2
142' N			8.7	499.7
148' N	Nat. Grd.		11.0	497.4
T.P. Set			9.90	498.53

* FOR MONTHLY ESTIMATE
COM 3-22-48
PAGES 1-14

Sept. 29, 1947

0+30

Rainey
King
Nielsen

1

TBM 0+20				520.58
	1.90	522.48		
Baseline (Undisturbed to South)				
0 N 0 S			1.8	520.7
5' N			2.0	520.5
38' N			8.0	514.5
83' N			12.2	510.3
T.P.			13.19	509.29
	2.12	511.41		
142' N			11.3	500.1
152' N	Nat. Grd.		14.7	496.7
T.P. P)			12.88	498.53

Reduced JK 10.1.47

0+50

0+20	T.B.M.			520.58
	2.49	523.07		
Baseline (Undisturbed to South)				
0'N	0'S		1.6	521.5
4'N			1.6	521.5
26'N			6.2	516.9
60'N			10.9	512.2
97'N			13.3	509.8
T.P.			13.20	509.87
	1.83	511.70		
137'N			2.4	509.3
157'N			8.8	502.9
T.B.M. P1			13.17	498.53
	0.96	499.49		
177'N			7.0	492.5
188'N			8.8	490.7
T.B.M. Set			6.33	493.16

Referred JK, 10.11.47

0+90

BM.				534.38
S	0.43	534.81		
0'S 0'N			11.9	522.9
30'S			9.2	525.6
50'S			7.9	526.9
76'S			5.9	528.9
103'S			4.2	530.6
130'S			3.3	531.5
139'S			1.8	533.0
			12.79	522.02
N.	1.10	523.12 ~~523.22~~		
14'N			1.7	521.4
30'N			5.2	517.9
94'N			12.7	510.4
96'N			13.2	509.9
160'N			13.3	509.8
I.P.			12.42	510.70 ~~510.80~~
	0.60	511.30 ~~511.40~~		

		511.30 ~~511.40~~		
185'N			11.8	499.5
I.P.			12.67	498.63 ~~498.73~~
	0.33	498.96 ~~499.06~~		
210'N			13.2	485.8
217'N			16.8	482.2
I.B.M.			~~5.96~~	493.10 ~~493.20~~
I.B.M. Set			11.29	487.67 ~~487.77~~

Reduced 10.1.47 JK

1400

				534.38
S.	0.43	534.81		
0'N	0'S		11.9	522.9
11'S			11.0	523.8
50'S			11.1	523.7
100'S			9.3	525.5
121'S			3.3	531.5
137'S			2.7	532.1
143'S			1.1	533.7
			12.79	522.02
N.	1.47	523.49		
14'N			2.1	521.4
25'N			4.2	519.3
50'N			6.7	516.8
65'N			8.1	515.4
94'N			12.6	510.9
96'N			13.8	509.7
150'N			13.3	510.2

523.49

162'N			13.3	510.2
T.P. T.B.M.			12.20	511.29
	0.43	511.72		
190'N			13.6	498.1
T.P.			12.82	498.90
	0.54	499.44		
214'N			13.3	486.1
226'N			18.3	481.1
T.B.M P3			11.73	487.71

Reduced 10.2.47 JK

1+10

S				534.38
	0.48	534.86		
146'S			0.8	534.1
141'S			3.1	531.8
124'S			3.5	531.4
112'S			9.8	525.1
97'S			13.2	521.7
T.P.			12.54	522.32
	1.53	523.85		
0'30'N			5.1	518.8
~~'N'~~				
35'N			5.2	518.7
50'N			6.0	517.9
96'N			13.3	510.6
150'N			13.7	510.2
163'N			13.3	510.6
Check T.P.4			12.60	511.25

Reduced 10.2.47 JK

5

1+20

S			534.38
	0.62	535.00	
147'S		0.8	534.2
142½S		3.5	531.5
126'S		3.7	531.3
116'S		11.0	524.0
T.B.M. Set on Stake		13.09	521.91
	1.50	523.41	
0'NOS		5.6	517.8
N			
33'N		4.2	519.2
50'N		5.0	518.4
98'N		12.6	510.8
150'N		12.4	511.0
165'N		12.9	510.5
T.P.		12.15	511.26
	0.35	511.61	

		511.61	
190'N		12.8	498.8
T.P.		12.75	498.86
	0.54	499.40	
T.P. on R.A.		11.72	487.68
	1.21	488.89	
231'N		11.2	477.7

Reduced 10·2·47 JK

7

1+50

S			521.91
	0.11	522.02 ✓	
118.5'S		+1.0	523.0
108'S		+0.4	522.4
50'S		4.8	517.2
0'N 0'S		4.7	517.3
N			
29'N		3.9	518.1
74'N		4.9	517.1
94'N		9.4	512.6
164'N		10.4	511.6 Top edge of bank

2+00

Sept. 30, 1947 Rainey King Nielsen

7

S			521.91
	0.11	522.02 ✓	
119'S	? (+)	2.1	524.1 ? 519.9
107'S		+1.4	523.4
103'S		0.7	521.3
50'S		5.6	516.4
8'S		6.9	515.6
4'S		4.1	517.9
0'N 0'S			
N			
27'N		2.1	519.9
50'N		2.3	519.7
79'N		4.7	517.3
95'N		8.1	513.9
162'N		9.4	512.6

Reduced 10.2.47 JK

2+50

S.

521.91

0.11 522.02 ✓

117'S	+2.0	524.0
103'S	+1.1	523.1
100'S	-0.8	521.2
40'S	5.7	516.3
10'S	5.8	516.2
5'S	3.2	518.8
0'N 0'S		
N		
24'N	1.5	520.5
48'N	0.5	521.5
70'N	1.9	520.1
95'N	6.5	515.5
158'N	8.3	513.7

Reduced 10.2.67 JK

8

9

3+00

S.			521.91
	2.25	524.16	
121'S		+1.2	525.4
107'S		+0.3	524.5
95'S		-3.3	520.9
42'S		7.3	516.9
12'S		7.5	516.7
7'S		5.3	518.9
0'NO's			
N			
50'N		2.2	522.0
83'N		7.1	517.1
156'N		10.0	514.2

3+50

9

S			521.91
	2.25	524.16	
120'S		+1.0	525.2
103'S		+0.3	525.5
96'S		2.1	522.1
40'S		7.7	516.5
11'S		7.0	517.2
7'S		4.2	520.0
0'NO's			
N			
46'N		2.9	521.3
82'N		7.1	517.1
150'N		7.5	516.7

Reduced 10.2.47 JK

10 4+00

S			521.91
	2.25	524.16 ✓	
120'S		+1.2	525.4
100'S		-0.1	524.1
97'S		2.5	521.7
49'S		7.0	517.2
10'S		6.6	517.6
7'S		4.1	520.1
O'NO's			
N			
43'N		3.1	521.1
80'N		8.3	515.9
83'N		6.5	517.7
149'N		6.9	517.2

4+50 10

S			521.91
	2.99	524.90 ✓	
T.B.M. Set		6.22	518.68 ✓
120'S		+0.4	524.5
107'S		+0.2	524.7
88'S		4.7	520.2
47'S		7.5	517.4
8'S		7.1	517.8
4'S		6.1	518.8
O'NO's			
N			
41'N		4.4	520.5
44'N		5.8	519.1
79'N		10.1	514.8
84'N		6.7	518.2
147'N		7.1	517.8

Reduced 10.2.67 JK

5+00

S.				521.91
	2.99	524.90 ✓		
120'S			0.0	524.9
105'S			0.3	524.6
101'S			2.7	522.2
46'S			7.3	517.6
0'N 0'S				
N				
5'N			5.8	519.1
13'N			4.7	520.2
31'N			5.4	519.5
75'N			12.1	512.8
86'N			6.3	518.6
149'N			6.5	518.4

5+50

				521.91
	2.99	524.90 ✓		
121'S			+0.5	525.4
107'S			0.0	524.9
55'S			7.1	517.8
20'S			7.4	517.5
0'N 0'S				
N				
7'N			5.4	519.5
25'N			6.0	518.9
70'N			14.5	510.4
85'N			6.6	518.3
148'N			6.6	518.3

Reduced 10.2.47 JK

12 6+00

			518.68
	4.93	523.61	
121'S		+3.0	526.6
111'S		+2.5	526.1
100'S		-0.6	523.0
56'S		5.1	518.5
0'NO'S		4.5	519.1
N			
12'N		5.2	518.4
35'N		10.9	512.7
72'N		14.1	509.5
88'N		4.6	519.0
149'N		5.2	518.4
		~~5.2~~	

6+50 12

S.			
			521.91
	1.61	523.52	
T.P.Set		3.65	519.87
122'S		+4.0	527.5
107'S		+2.9	526.4
97'S		0.5	523.0
50'S		5.3	518.2
3'S		~~5.1~~ 4.7	518.8
0'NO'S			
9'N		5.1	518.4
20'N		9.9	513.6
46'N		14.0	509.5
69'N		14.4	509.1
86'N		4.9	518.6
149'N		5.3	518.2

Reduced 10.2.47 JK

7+00

S.				521.91
	1.61	523.52		
122'S			+3.5	527.0
98'S			+2.0	525.5
93'S			+0.2	523.7
63'S			3.7	519.8
18'S			4.7	518.8
0'N 0'S			4.5	519.0
N				
19'N			10.4	513.1
38'N			13.9	509.6
80'N			14.3	509.2
85'N			6.3	517.2
153'N			6.8	516.7

7+40

S.				536.39
	0.00	536.39		
149'S			2.8	533.6
144'S			4.4	532.0
128'S			3.9	532.5
124'S			6.8	529.6
100'S			7.9	528.5
T.P.			11.08	525.31
	1.55	526.86		
50'S			3.1	523.8
0'N 0'S			8.5	518.4
N				
12'N			9.6	517.3
50'N			14.9	512.0
71'N			16.3	510.6
83'N			11.7	515.2
152'N			10.7	516.2
ct. T.P.			7.00	519.86

Reduced 10.2.47 JK

14 7+60

S

536.19 53

148'S		2.1	534.1
138'S		3.7	532.5
124'S		4.3	531.9
100'S		6.0	530.2
50'S		11.0	525.2
T.P.		12.25	523.94
	1.91	525.85	
0'N 0'S		6.1	519.8
N			
66'N		12.5	513.3
84'N		11.7	514.2
152'N		10.1	515.7

/

Raimey
King
Narrow

14

S 8+00 Oct. 1, 1947

536.55

100'S		3.6	533.0
50'S		7.2	529.3
0'N 0'S		11.4	525.2
N			
T.P.		11.25	525.30
	1.61	526.91	
50'N		6.1	520.8
100'N		9.1	517.8
ck T.P. (p.12)		7.06	519.85 ~~526.85~~

Reduced 10·2·47 JK

15

* 0+00 = N.W. Cor
Baseline on all X-sections
North line of top of embankment

536.39

5.42 541.81

0+00

1+00

1+50

2+00

2+50

3+00

3+50

4+00

* FOR MONTHLY ESTIMATE
Corr 3-22-48

Murray Embankment 15

Rainey
King
Nicholas
Oct. 1, 1947

Lt's	N Line	Rt's
		1.9 / 9'
	2.1	7.2 / 28'
10⁶ 6.1 / 37	4.8 / 31	3.9
10⁶ 9.5 / 44'	6.8 / 38	4.7
14.4 / 59'	8.9 / 46	5.7
16.5 / 64'	9.5 / 50	7.7
18.1 / 68	11.1 / 55	8.4
18.9 / 70	12.6 / 54'	8.2
Nat grd.	9.6 / 36	6.4

Rt's	
3.3 / 16'	3.7 / 35
3.8 / 19'	4.3 / 31 / 4.6 / 42
4.7 / 25	5.3 / 30 / 5.3 / 35
5.5 / 26'	5.9 / 35'
6.1 / 31	6.0 / 36
6.9 / 14'	6.5 / 22
Nat. grd	

16 — Oct. 23, 1947 — 1+11 — Bliss, Baker, LEONARD — Rainey, King, Nierron

* ✓ Base of all Sections to Bottom

523.69 ✓

		ELEV	CUT TO EL 516.0
C'NO's & Not Baseline	6.8	516.9	0.9
50's	5.3	518.4	2.4
92's	3.7	520.0	4.0
87'N	7.5	516.2	0.2
43'N	2.3	521.4	5.4
33'N	2.8	520.9	4.9
28'N	5.8	517.9	1.9

* CROSS SECTIONS FOR MONTHLY ESTIMATE PAGES 16 TO 25

Con 3-22-48

Regulating Reservoir — 1+20 — 16

534.38

0.67 — 535.05 ✓

11.60 — 523.45 ✓

0.24 — 523.69 ✓

		ELEV	CUT TO ELEV 510.0
92's	4.3	519.4	9.4
50's	6.0	517.7	7.7
0's 0'N = ℄ Not Baseline	7.2	516.5	6.5
39'N	6.1	517.6	7.6
50'N	5.0	518.7	8.7
75'N	8.3	515.4	5.4
86'N	8.7	515.0	5.0

REDUCED 10.23.47 JK

1+50

	✓ 523.69		ELEV	CUT TO EL 510.0
0'N 0's	& Net Baseline	10.6	513.1	3.1
71'S		8.3	515.4	5.4
84'S		6.5	517.2	7.2
95'S		6.3	517.4	7.4
27'N		10.6	513.1	3.1
39'N		10.1	513.6	3.6
45'N		10.7	513.0	3.0
67'N		10.5	513.2	3.2
75'N		9.3	514.4	4.4
90'N		8.9	514.8	4.8

From 1+50 to End N taken first 17

2+00

	✓ 523.69		ELEV	CUT TO EL 510.0
0'N 0's		12.0	511.7	1.7
69'N		11.9	511.8	1.8
89'N		8.4	515.3	5.3
94'N		7.4	516.3	6.3
65'S		10.6	513.1	3.1
77'S		9.6	514.1	4.1
88'S		8.6	515.1	5.1
95'S		8.1	515.6	5.6

REDUCED 10-23-47 JK

2+50

523.69 ✓

			CUT TO EL 510.0
0'N 0'S	12.2	511.5	1.5
60'N	11.3	512.4	2.4
85'N	6.5	517.2	7.2
95'N	5.8	517.9	7.9
52'S	11.4	512.3	2.3
63'S	10.6	513.1	3.1
74'S	9.4	514.3	4.3
90'S	9.2	514.5	4.5
94'S	8.4	515.3	5.3

3+00

523.69 ✓

			CUT TO EL 510.0
0'N 0'S	12.5	511.2	1.2
53'N	11.6	512.1	2.1
77'N	7.0	516.7	6.7
97'N	5.9	517.8	7.8
66'S	10.2	513.5	3.5
77'S	8.4	515.3	5.3
93'S	7.6	516.1	6.1

REDUCED 10.23.47 JK

3+50

523.69

				CUT TO EL 510.0
0'N 0'S		12.0	511.7	1.7
47'N		11.4	512.3	2.3
57'N		9.7	514.0	4.0
74'N		7.8	515.9	5.9
94'N		6.3	517.4	7.4
43'S		11.7	512.0	2.0
76'S		8.5	515.2	5.2
91'S		7.8	515.9	5.9

4+00 Change H.I.

523.69

				CUT TO EL 510.0
		11.22	512.47	
	6.66	519.13		
0'N 0'S		6.8	517.3	2.3
58'N		5.3	513.8	3.8
71'N		3.2	515.9	5.9
91'N		3.0	516.1	6.1
51'S		6.5	512.6	2.6
67'S		4.9	514.2	4.2
73'S		3.9	515.2	5.2
84'S		3.4	515.7	5.7
92		3.0	516.1	6.1

19

20

4+45

✓ 519.13

			CUT TO EL 510.0
0'N 0'S	7.5	511.6	1.6
20'N	5.2	513.9	3.9
41'N	5.6	513.5	3.5
72'N	2.5	516.6	6.6
78'N	3.3	515.8	5.8
92'N	3.6	515.5	5.5
43'S	6.2	512.9	2.9
72'S	4.4	514.7	4.7
93'S	3.4	515.7	5.7

4+53

20

✓ 519.13

CUT TO EL 510.0

0'N 0'S	6.8	512.3	2.3
10'N	6.3	512.8	2.8
17'N	5.2	513.9	3.9
50'N	1.8	517.3	7.3
82'N	+1.7	520.8	10.8
100'N	+4.2	523.3	13.3
110'N	+6.8	525.7	15.7

REDUCED 10·23·47 JK

4+69

519.13 ✓

			CUT TO EL 510.0
0'NO'S	6.6	512.5	2.5
16'N	4.3	514.8	4.8
28'N	2.9	516.2	6.2
106'N.	+6.2	525.3	15.3

4+80

519.13 ✓

			CUT TO EL 510.0
0'NO'S	6.4	512.7	2.7
10'N	5.8	513.3	3.3
16'N	4.8	514.3	4.3
42'N	2.0	517.1	7.1
62'N	3.1	516.0	6.0
76'N.	3.2	515.9	5.9
80'N	4.0	515.1	5.1
92'N	4.7	514.4	4.4

REDUCED 10.23.47 JK

5400

519.13 ✓

			CUT TO EL 510.0
O'N O's	6.3	512.8	2.8
25'N	4.9	514.2	4.2
45'N	4.1	515.0	5.0
55'N	2.8	516.3	6.3
74'N	3.4	515.7	5.7
76'N	4.4	514.7	4.7
87'N	5.8	513.3	3.3
AA's	6.7	512.4	2.4
67's	5.4	513.7	3.7
82's	3.2	515.9	5.9
97's	2.3	516.8	6.8

5450

Change H.I.

519.13 ✓

				CUT TO EL 510.0
	5.08	514.05 ✓		
7.88	521.93 ✓			
O'N O's	7.3	514.6	4.6	
24'N	6.6	515.3	5.3	
31'N	5.3	516.6	6.6	
38'N	5.9	516.0	6.0	
83'N	11.4	510.5	0.5	
21's	8.7	513.2	3.2	
24's	8.0	513.9	3.9	
43's	9.7	512.2	2.2	
68's	9.2	512.7	2.7	
73's	7.3	514.6	4.6	
93's	6.7	515.2	5.2	

REDUCED 10.23.47 JK

23

6+00

✓ 521.93

			CUT TO EL 510.0
28'N	5.6	516.3	6.3
33'N	3.9	518.0	8.0
82'N	12.8	509.1	-0.9
0'NO'S	6.0	515.9	5.9
8'S	6.3	515.6	5.6
11'S	7.7	514.2	4.2
20'S	8.5	513.4	3.4
22'S	7.6	514.3	4.3
69'S	9.6	512.3	2.3
77'S	7.4	514.5	4.5
93'S	7.8	514.1	4.1

6+50

✓ 521.93

			23 CUT TO EL 510.0
0'NO'S	3.8	518.1	8.1
30'N	4.4	517.5	7.5
36'N	8.2	513.7	3.7
61'N	12.3	509.6	-0.4
82'N	13.0	508.9	-1.1
9'S	7.1	514.8	4.8
21'S	6.8	515.1	5.1
68'S	8.5	513.4	3.4
75'S	6.3	515.6	5.6
92'S	6.8	515.1	5.1

REDUCED 10-23-47 JK

7+00

	✓ 521.93			CUT TO EL 510.0
0'NO'S		3.6	518.3	8.3
5'N		2.6	519.3	9.3
25'N		2.9	519.0	9.0
34'N		8.9	513.0	3.0
52'N		12.4	509.5	−0.5
82'N		12.6	509.3	−0.7
5'S		5.4	516.5	6.5
69'S		5.9	516.0	6.0
76'S		5.1	516.8	6.8
90'S		5.0	516.9	6.9

7+34

	✓ 521.93			CUT TO EL 510.0
0'NO'S		1.6	520.3	10.3
6'N		0.6	521.3	11.3
21'N		0.6	521.3	11.3
30'N		5.3	516.6	6.6
45'N		8.8	513.1	3.1
84'N		11.7	510.2	0.2

REDUCED 10·23·67 JK

7+50

					CUT TO EL 516.7
		521.93			
0's 0's			0.0	521.9	5.2
28's			0.2	521.7	5.0
80's			2.6	519.3	2.6
T.P.			0.78	521.15	
	12.35	533.50			
			4.17	529.33	
	9.08	538.41			
B.M. Top of Dam			2.05	536.36	

REDUCED 10-23-47 JK

25

Rainey
King
Nielson

Ditch for Aqueduct

Oct. 27, 1947 Marraylake

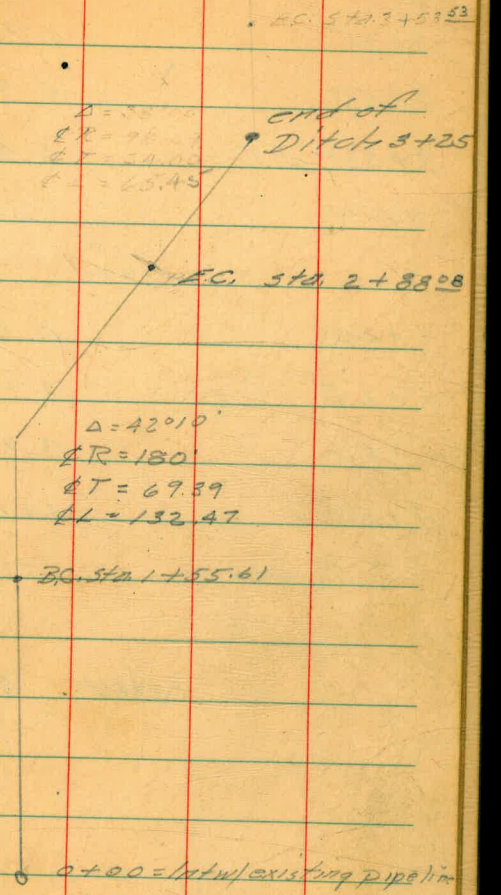
Profile

B.M.	I.T.P.			U.S.G.S. Datum 546.12
	7.49	553.61		
1+55.61	B.C.		2.9	550.7
1+75			3.3	550.3
2+00			4.3	549.3
I.P.#1			8.96	544.65
	5.38	538.03		
2+25			1.7	548.3
2+31			0.9	549.1
2+37			3.1	546.9
2+50			3.9	546.1
2+60			6.2	543.8
2+75			7.8	542.2
2+88.8	P.R.C.		9.0	541.0
3+00			10.3	539.7
I.P.#2			12.53	537.30
	0.66	540.16		

Reduced 10.27.47 JK

Alignment of Ditch

26.



Ditch for Aqueduct

Profile cont.

		38	542.16
3+25		1.7	536.5
3+50		5.7	532.5
3+53.53 E.C.		6.4	531.8
T.P. #3		12.17	527.99
	1.03	7	526.02
4+00		3.6	523.4
4+25		9.0	518.0
4+30		8.3	518.7
4+50		13.8	513.2
To Curve		11.96	515.06

Reduced 10.27.47

Ditch for Aqueduct

Profile cont.

			38 542.16
3+25		1.7	536.5
3+50		5.7	532.5
3+53.53 E.C.		6.4	531.8
T.P. #3		12.17	525.99
	1.03		527.02
4+00		3.6	523.4
4+25		9.0	518.0
4+30		8.3	518.7
4+50		13.8	513.2
To Guinea		11.96	518.06

Reduced 10.27.47

Continuation of Ditch
to Construction

B.M. T.P.			546.12		
	6.91	553.03			outs
1+55 6'			1.8	551.2	542.9	8.3
1+75			2.5	550.5	542.9	7.6
2+00			3.4	549.6	542.8	6.8
2+25			6.3	546.7	542.8	3.9
2+40			8.3	544.7	542.4	2.3
2+50			9.7	543.3	541.8	1.5
2+60			10.2	542.8	541.3	1.5
2+75			12.7	540.3	540.2	0.1
2+88 28	EC.		14.1	538.9	539.3	f 0.4
3+00	End of Line		15.6	537.4	538.4	f 1.0

* Alvarado X Section Outside Regulating Reservoir Fill

50'S. Baseline H.I			
0+70	535.3		
3'W		5.3	530.0
10'W		8.9	526.4
Baseline			
0'N & S 0+70	535.1		
5'W		5.1	530.0
19'W		13.1	522.0
50'N Baseline			
0+70	533.0		
7'W		3.4	529.6
14'W		7.7	525.3
20'W		12.3	520.7
23'W		12.8	520.2
31'W		16.6	516.4

* FOR MONTHLY ESTIMATE
PAGES 29 TO 34
Com 3-22-48

Nov. 14, 1947 Rainey King Nielson

75'N Baseline			
0+70	535.1		
7'W		4.1	529.0
19'W		12.9	520.2
22'W		12.9	520.2
29'W		16.4	516.7
45° N.W. Cor.			
	530.1		
3'		2.1	528.0
6'		2.1	528.0
26'		13.0	517.1
I.P.		13.0	517.1
3.0	520.1		
42'		11.0	509.1
T.P.		13.0	507.1
4.0	511.1		
51'		7.4	503.7
56'		8.2	502.9
63'		12.6	498.5

Outside edge x sect
Regulating Reservoir

1+20				
		530.1		
7'N			3.5	526.6
8'N			3.3	526.8
27'N			13.0	517.1
T.P.			13.0	517.1
	0.0	517.1		
44'N			8.5	508.6
56'N			13.5	503.6
T.P.			13.0	504.1
	0.0	504.1		
76'N			11.0	493.1
T.P.			13.0	491.1
	0.0	491.1		
105'N			8.1	483.0
109'N			13.6	477.5

2+00	H.I			
	531.0			
3'N			0.4	530.6
8'N			3.2	527.8
19'N			9.0	522.0
28'N			13.0	518.0
T.P.			13.0	518.0
	0.0	518.0		
53'N			12.0	506.0
T.P.			12.0	506.0
	0.0	506.0		
63'N			5.8	500.2
80'N			14.9	491.1

Outside Edge X Section
Regulating Reservoir

2+50		H.I		
		531.5		
3'N			1.2	530.3
24'N			13.0	518.5
T.P.			13.0	518.5
	0.0	518.5		
50'N			13.0	505.5
T.P.			13.0	505.5
	5.0	510.5		
66'N			12.5	498.0

3+00		H.I		
		531.0		
3'N			0.7	530.3
21'N			11.2	519.8
24'N			13.0	518.0
T.P.			13.0	518.0
	0.0	518.0		
43'N			9.4	508.6
52'N			12.6	505.4
55'N			14.6	503.4

Outside Edge x section
Regulating Reservoir

3+50		H.I.		
		531.4		
3'N			1.3	530.1
15'N			9.1	522.3
23'N			13.0	518.4
T.P.			13.0	518.4
	0.0	518.4		
39'N			7.2	511.2
68'N			17.4	501.0
4+00		New x Section		
		531.0		
3'N			0.6	530.4
25'N			13.5	517.5
T.P.			13.0	518.0
	0.0	518.0		
47'N			9.0	509.0
55'N			13.0	505.0
70'N			20.0	498.0

4+50		H.I.		
		531.4		
1'N			1.2	530.2
13'N			7.0	524.4
23'N			13.0	518.4
T.P.			13.0	518.4
	0.0	518.4		
52'N			12.1	506.3
5+00		New x sect.		
		531.0		
4'N			0.6	530.4
24'N			13.0	518.0
T.P.			13.0	518.0
	5.00	523.0		
42'N			13.0	510.0

Outside Edge X Sect. Regulating Reservoir

5+50		H.I.		
		531.4		
3'N			1.2	530.2
24'N			13.0	518.4
I.P.			13.0	518.4
	4.6	523.0		(510.0)?
38'N			13.1	509.9
6+00.		New X Section		
		531.0		
1'N			0.8	530.2
24'N			13.0	518.0
I.P.			13.0	518.0
	5.0	523.0		
40'N			13.0	510.0

6+50		H.I.		
		532.0		
3'N			1.6	530.4
11'N			5.5	526.5
24'N			13.0	519.0
I.P.			13.0	519.0
	4.0	523.0		
40'N.			13.0	510.0
7+00.		New Section		
		530.2		
3'N			0.0	530.2
11'N			4.0	526.2
27'N			13.0	517.2
I.P.			13.0	517.2
	6.0	523.2		
42'N			13.2	510.0

Outside Edge x Sect
Regulating Reservoir

7+40				
		531.0		
3'N			2.5	528.5
10'N			4.9	526.1
24'N			13.0	518.0
I.P.			13.0	518.0
	5.0	523.0		
40'N			13.0	510.0

Pages 29-34 Reduced 11.17.47 JK

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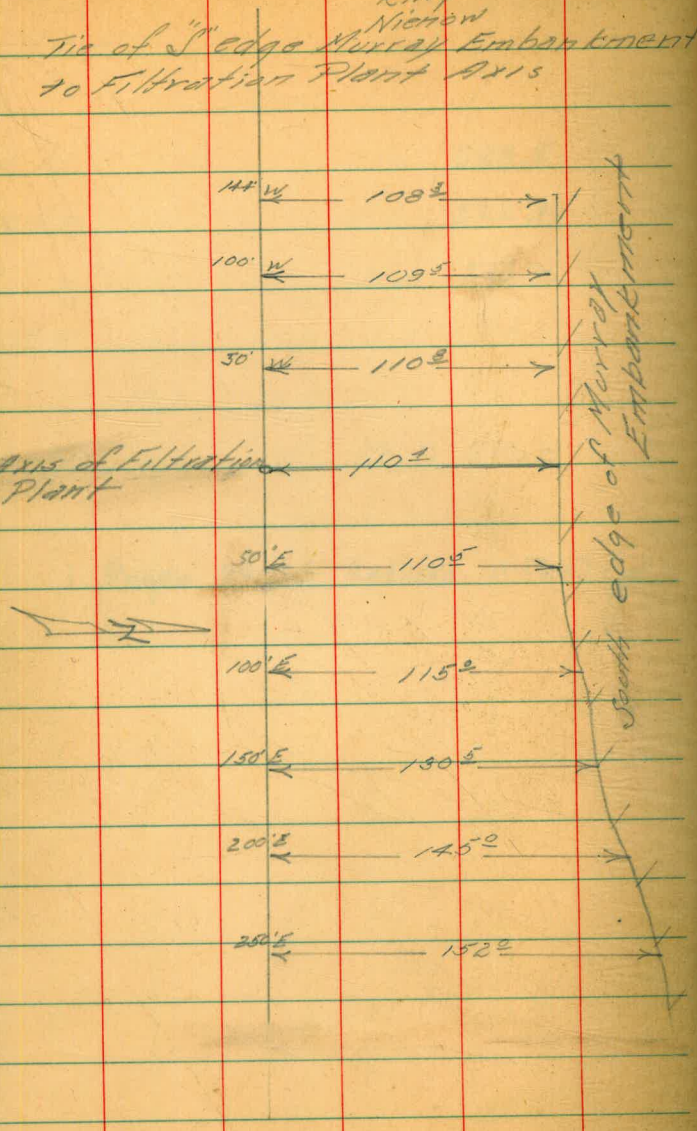
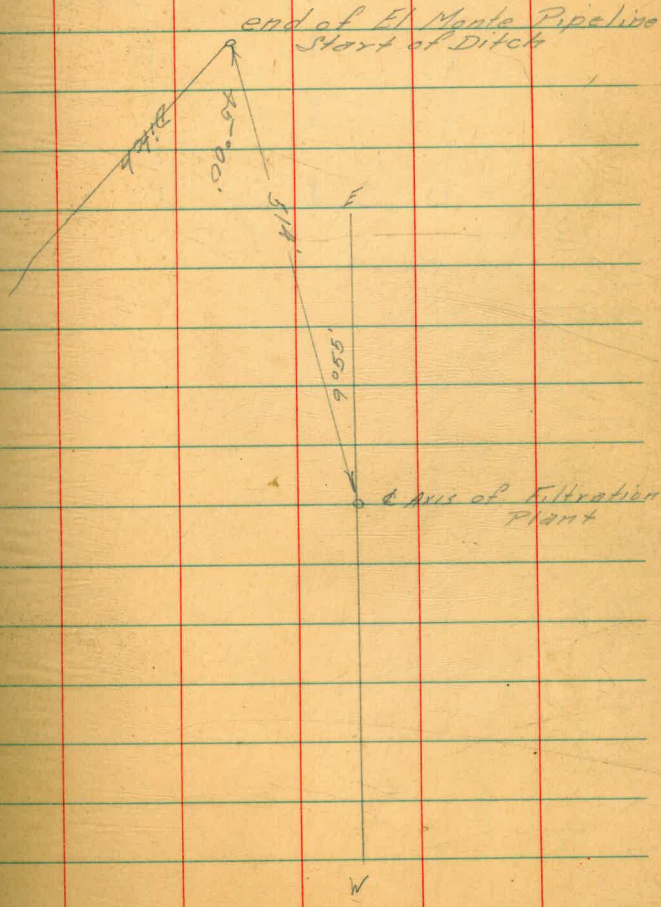
Ramey Dec. 2, 1947
King
Nienow

Tie of "S" edge Murray Embankment to Filtration Plant Axis

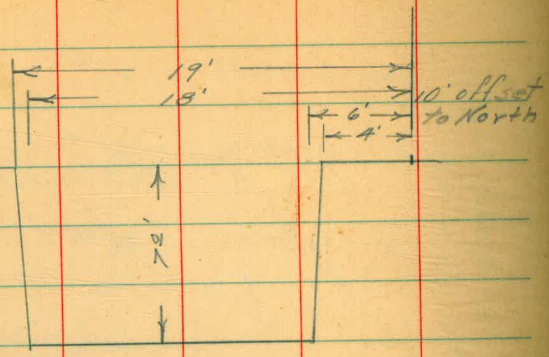


Tie from Axis of Filtration Plant to Murray Ditch

35



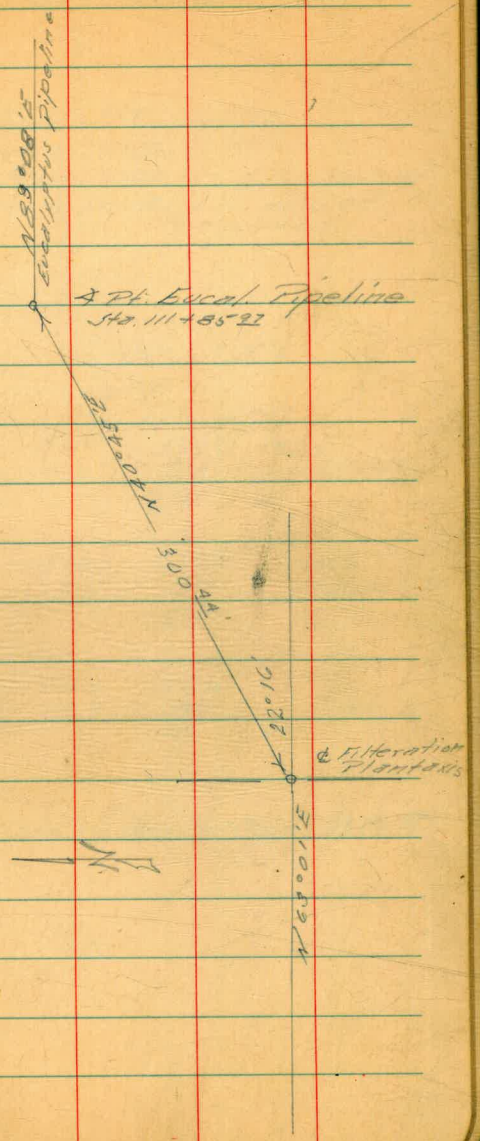
Typical Section of ditch (Murray Pass) Sta. 1+00



36

Dec. 16, 1947 Rainey
King
Nienow

Tie to Eucalyptus Pipeline
(Filteration Plant) 37



Jan. 12, 1948 Rainey
King
Nichon

Section Ramp
Murray Reg. Reservoir

at 7+70 Reservoir
Stationing Ramp 16' wide
and meets the slope of
Reservoir

516.69

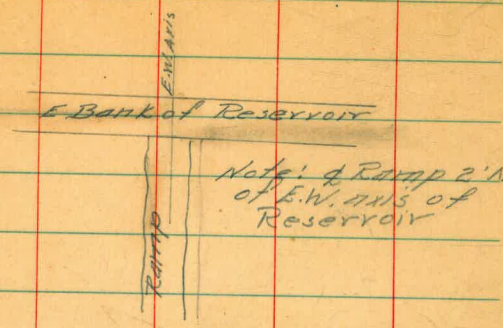
4.95 521.64

7+40

7+15

6+80

6+70 end of Ramp



℄ Ramp

	Rts.		Lts.	
509.3	520.2	521.1	520.8	508.8
12.3	1.4	0.5	0.8	12.8
11.5	6.5		6.5	16.
509.9	516.0	516.1	516.2	509.3
11.7	5.6	5.5	5.4	12.3
10.5	6.5		6.5	12.5
509.4	511.0	511.3	511.6	510.1
12.2	10.6	10.3	10.0	11.5
10.	71		9	13

Reduced Cor 1-14-48

Final X Sections Murray Embankment

536.39

11.70 548.09

0E 0W

0+50W

1+00W

1+35W

1+43W Nat. Grnd.

1+48W 0.0 Section

0+50E

1+00E

Rainey
King
Niemow

Base of Sections

"Axis of Embankment

Jan. 29, 1948

Sections Are E + W of Axis

S. ℄ N.

40.7	42.0	42.6	43.6	45.3	45.3	46.0	46.2	43.9	30.3	
7.4	6.1	5.5	4.5	2.8	2.3	2.1	1.9	4.2	17.8	
107	105	65	29	27		12	37	41	85	
40.9	42.4	42.7	43.2	44.8	45.0	46.0	45.2	34.7		
7.2	5.7	5.4	4.9	3.3	3.1	2.1	2.9	13.4		
106.5	104.5	65	29	26		22	37	71		
41.1	42.1	42.4	42.5	43.9	43.7	43.7	35.3			
7.0	6.0	5.7	5.6	4.2	4.4	4.4	12.8			
107	105.5	65	29	18		41.	69			
41.3	42.1	42.1			42.7	42.9	34.5			
6.8	6.0	6.0			5.4	5.2	13.6			
108.5	107.5	65				38	73			
	41.4	41.5	40.5	41.8	41.4	39.5	39.0	34.7		
	6.2	6.6	7.6	6.3	6.7	8.6	9.1	13.4		
	105	34	12		12	20	43	73		
40.6	42.0	42.5	43.2	45.3	45.7	46.7	25.5			
7.5	6.1	5.6	4.9	2.8	2.4	1.4	22.6			
107	105	65	30	25		34	100			
40.6	41.9	42.4	42.2	44.6	45.4	46.9	20.9			
7.5	6.3	5.7	5.9	3.5	2.7	1.2	27.2			
102	99	65	32	25		34	110			

548.09

1+50E

2+00E

2+50E

3+00E

3+18 00 Section

S Ø N

40.9 42.0 42.2 42.1 44.1 45.1 46.5 45.7 13.7
72 61 59 60 40 3.0 1.6 2.4 34.4
87 85 55 30 22 30 38 130

41.1 42.0 42.4 42.1 44.1 44.2 45.5 L 1.6
70 61 57 60 40 3.9 2.6 36.5
72 68 50 25 18 41 132

42.2 42.9 43.0 43.2 44.2 25.6
59 52 51 4.9 3.9 22.5
62 60 45 40 99

42.4 42.6 41.8 38.0
5.7 5.5 6.3 10.1
40 24 35

Reduced 2-2-48
C.O.W.

Final X-Sections Alvarado Reg.

0 = 125' North of original base line

B.M.	0.25	536.64		536.39	Top Pan
T.P.	4.78	535.07	6.35	530.29	
		0+30	= 00	Sec X West End	
125 N					
0			32.5	502.6	
140 N					
15 N			35.3	499.8	

Resr

2-6-48

King
Baker
Leonard

0+40
535.07

0 = 125 N		26.8	508.3
13' N = 138 N		30.5	04.6
26' N = 151 N		32.0	03.1
	507.68		
46 N = 171 N		13.4	94.3
	520.32		
13' S = 112 N		8.2	12.1
33' S = 92 N		4.3	16.0
83' S = 42 N		3.8	16.5

0450

5°55.07

0 =	12.5 N		22.5	512.6
40'S	= 8.5 N	5°35.68	15.1	20.6
90'S	= 3.5 N		16.1	19.6
100'S	= 2.5 N 0.6		14.0	21.7
		507.68		
38'N	16.3 N		5.5	502.2
50 N	17.5 N		12.3	495.4
54 N	17.9 N		14.5	493.2

0460

5°55.07

0 =	12.5 N		18.0	517.1
40'S	= 8.5 N	5°35.68	9.7	526.0
90'S	= 3.5 N		7.7	28.0
160'S	= 3.5 S 0.6		10.7	25.0
		507.68		
42'N	16.7 N		5.5	02.2
50'N	17.5 N		9.5	498.2
74'N	19.9 N		19.5	488.2

0+70

535.07

0 = 125 N		14.7	520.6
	530.66		
34'5 = 91 N		0.6	530.1
46' N = 171 N	507.68	5.6	02.1
63' N 198 N		13.5	94.2
78' N 203 N		21.2	86.5

0+80

535.07

0 = 125 N		11.6	523.5
	530.66		
18'5 = 107 N		0.3	530.4
50' N = 175 N	507.68	5.4	502.3
74' N = 199 N		18.0	489.7
84' N = 209 N		22.5	495.2

0490

5-35.07

0 = 125 N		9.1	526.0
6'5 = 119 N		5.1	530.0
50'N = 175 N	507.68	4.5	03.2
63'N = 188 N		10.8	96.9
76'N = 201 N		17.7	90.0
90'N = 215 N		23.9	83.8

1490

5 35.07

0 = 125 N		6.6	528.5
3'5 = 122 N		5.0	530.1
102'N = 227 N	507.60	26.5	481.2
89 N = 214 N		21.9	85.8
76 N = 201 N		15.1	92.6
5-8 N 183 N		6.8	500.9

H10

535.07

0 = 125 N		5.0	530.1
2'N = 127N		5.0	530.1
	507.68		
52'N = 177N		3.5	504.2
76'N = 201N		15.2	492.5
89'N = 214N		21.9	485.8
102'N = 227N		26.6	481.1

1+20

585.07

0 = 125N		5.0	530.1
3'N = 128N		5.3	529.8
18'N = 143N		13.9	521.2
	507.68		
56'N = 181N		4.5	503.2
89'N 214N		19.2	488.5
118N = 243N		32.0	475.7

1740

535.07

0 = 125 N		5.0	530.1
4'N = 129 N		5.1	530.0
19'N = 144 N		13.2	521.3
	507.68		
50 N = 175 N		1.3	506.4
76'N = 201 N		14.1	493.6
102'N = 227 N		25.0	482.7
120'N = 245 N		32.9	474.8

1760

535.07

0 = 125 N		4.9	530.2
5'N = 130 N		5.5	529.6
20'N = 145 N		14.0	521.1
	507.68		
50'N = 175 N		1.3	506.4
76'N = 201 N		14.2	493.5
90'N = 215 N		18.0	489.7
O.G. 105 N = 230 N		28.7	479.0

1480

535.07

0 = 125N		5.0	530.1
6N = 131N		5.6	529.5
17N = 142N		13.5	521.6
507.68			
76N = 201N		14.3	493.4
0.G			
100N = 225N		24.9	482.8
0.G			
120N = 245N		32.2	475.5

2400

535.07

0 = 125N		4.9	530.2
7 = 132N		5.7	529.4
80.68			
76N 201N		13.5	494.2
490.63			
0.G		20.9	
88N = 213N		3.8	486.8
0.G		24.4	
100N = 225N		7.3	483.3
0.G		28.1	
110N = 235N		11.0	479.6

2+20

535.07

0 = 125N		5.0	530.1
6N = 131N		5.7	529.4
	507.68		
75'N = 200'N		14.9	492.8

2+40

535.07

0 = 125N		4.8	530.3
6N = 131N		5.5	529.6
	507.68		
71'N = 196N		12.9	495.8

2+60

535.07

0 = 125 N		4.6	530.5
6' N = 131 N		5.2	529.9
	507.68		
68' N = 193 N		10.3	497.4

2+80

535.07

0 = 125 N		4.9	530.2
6' N = 131 N		5.5	529.6
	507.68		
N			
62' N = 187 N		7.7	500.0

3+00

535.07

0 = 12.5 N		4.9	530.2
6'N = 13.1N		5.7	529.4
	507.68		
28'N = 15.3N		+9.3	517.0
55'N = 18.0N		5.7	502.0

3+22

535.07

0 = 12.5N		4.9	530.2
6'N = 13.1 N		5.7	529.4
	514.63		
18'N = 14.3N		+5.8	520.4
31'N = 15.6N		1.3	513.3
61'N = 18.6N		13.4	501.2

3440

535.07

0 = 125 N		5.0	530.1
6' N = 131 N		5.7	529.4
	514.63		
19 N = 144 N		+6.0	520.6
40' N = 165 N		4.3	510.3
58' N = 183 N O.G.		13.6	501.0.

3460

535.07

0 = 125 N		5.0	530.1
5' N = 130 N		5.5	529.6
	514.63		
.22' N = 147 N		+4.0	518.6
= 194 N			
69' N O.G.		15.4	499.2

3+80

535.07

0 = 125N		4.8	530.3
5'N = 130N	514.63	5.4	529.7
22'N = 147N		14.6	519.2
63'N = 188N		14.2	500.4
73'N = 198N		14.8	499.8
3+68 = 0.0 Section of 15' BERM	502.12		
85'N = 210N 0.6		7.1	495.0
100'N = 225N 0.6		9.2	492.9

4+00

535.67

0 = 12.5N		4.9	530.2
5'N = 130N	514.63	5.4	529.7
24'N = 149N		13.9	518.5
59'N = 184N		12.9	501.7
74'N = 199N = 212N 0.6	502.12	13.6	501.0
87'N 0.6 = 225N		7.8	494.3
100'N 0.6		9.8	492.3

Note: Where elevation reads 590 or vicinity, 490 is intended.

JK

4+70

535.07

0 = 125 N			4.9	530.2
5' N = 130 N			5.6	529.5
		514.63		
24 N = 149 N			+4.5	519.1
~~23' N = 148 N~~			~~+2.6~~	~~511.2~~
57' N = 182 N			11.8	502.8
70' N = 195 N			11.7	502.9
= 212 N		502.12		
87' N O.G			8.9	493.2
100' N = 225 N O.G			10.9	491.2

4+40

535.07

0 = 125 N			5.1	530.0
5' N = 130 N			5.7	529.4
		514.63		
25 N = 150 N			+3.0	517.6
54' N = 179 N			9.9	504.7
68' N = 193 N			9.8	504.8
= 211 N		502.12		
86' N. O.G			8.0	494.1
100' N = 225 N O.G			11.8	490.3

4+60

535.07

0	= 125N		5.0	530.1
5' N	= 130N		5.6	529.5
		514.63		
25N	= 150N		x 2.9	547.5
~~22' N~~	~~= 147N~~		7.3	~~515.9~~
50' N	= 175N		9.0	505.6
66' N	= 191N		9.0	505.6
	= 215N	502.12		
90' N	OG		10.7	591.4
	= 225N			
100' N	O.G		12.4	589.7

4+80

535.07

0	= 125N		5.0	530.1
4 N	= 129N		5.6	529.5
		514.63		
<				
44' N	= 169N		6.6	509.0
63' N	188N		7.2	507.4
	217 N	502.12		
92' N	O.G		12.1	490.0
	225 N			
100' N	O.G.		13.0	489.1

5+00

		535.07		
0 =	125 N		5.0	530.1
5 N =	130 N		5.4	529.7
		514.63		
41 N =	166 N		5.1	509.5
58' N =	183 N		4.8	509.8
		502.12		
95 N	220 N 0.6		11.7	490.4
110 N	235 N 0.6		16.2	485.9

5+20

		535.07		
0 =	125 N		4.9	530.2
6 N =	131 N		5.8	529.3
		514.63		
40 N =	165 N		4.7	509.9
57' N	182 N		4.1	510.5
		302.12		
98' N	223 N 0.6		14.1	488.0

5740

535.07

0	= 125 N		5.0	530.1
5' N	= 130 N		6.9	528.2
		514.63		
39' N	= 164 N		4.4	510.2
57' N	= 182 N		4.2	510.4
		502.12		
90' N	215 N		9.7	492.4
	230 N	490.41		
105' N	0.6		4.9	485.5
	249 N			
124' N	0.6		8.8	481.6

5760

535.07

0	= 125 N		5.0	530.1
1' N	= 131 N		5.7	529.4
		514.63		
39' N	= 164 N		4.7	509.9
57' N	182 N		4.8	509.8
		502.12		
92' N	217 N		7.7	494.4
	252 N	490.41		
127' N	0.6		12.0	478.4

5+80

		535.07		
6	= 125N		4.9	530.2
7'N	= 132N		5.7	529.4
		514.63		
40'N	= 165N		4.6	510.0
56'N	= 181N		4.5	510.1
		502.12		
90'N	= 215N		6.9	495.2
	= 249N	490.41		
124'N	0.6'		11.9	478.5

6+00

		535.07		
0	= 125N		4.9	530.2
7'N	= 132N		5.7	529.4
		514.63		
40'N	= 165N		4.4	510.2
56'N	= 181N		4.4	510.2
		502.12		
85'N	210N		6.5	495.6
	= 235N	490.00		
110'N	0.6		10.9	479.1

		6+20		
		535.67		
0	= 125 N		4.7	530.4
7' N	= 132 N		5.7	529.4
		514.63		
39' N	= 164 N		4.2	510.4
56' N	181 N		4.1	510.5
		502.12		
82' N	207 N		5.5	496.6
	234 N	490.41		
109' N	0.6		8.1	482.3

		6+40		
		535.07		
0	= 125 N		5.0	530.1
6' N	= 131 N		5.6	529.5
		514.63		
39' N	= 164 N		4.1	510.5
55' N	180 N		3.9	510.7
		502.12		
81' N	206 N		4.4	497.7
	231 N	490.41		
106' N	0.9		5.4	485.0

6+00

535.07

0	= 125 N	4.9	530.2
6' N	= 131 N	5.7	529.4
	514.63		
39 N	= 164 N	3.8	510.8
56' N	= 181 N	4.1	510.5
	502.12		
90' N	= 215 N	9.6	492.5
100' N	= 225 N 0.G	13.4	488.7

6+00

535.07

0	= 125 N	4.8	530.3
6' N	= 131 N	5.8	529.3
	514.63		
37' N	= 162 N	3.0	511.3
55' N	= 180 N	3.7	510.9
	502.12		
97 N	= 202 N	1.9	500.2
93 N	215 N 0.G	10.2	491.9

7+00

535.07

0 =	125 N		5.1	530.0
6' N =	131 N		5.9	529.2
		514.63		
38' N =	163 N		3.2	511.4
54' N =	179 N		3.4	511.2
		502.12		
77 N =	202 N		2.8	499.3
O.G.				
88 N	213 N		6.6	495.5

7+20

535.07

0 =	125 N		5.2	529.9
6' N	131 N		6.2	528.9
		514.63		
37' N	162 N		2.7	511.9
53' N	178 N		3.1	511.5
O.G.				
72' N =	197 N		12.4	502.2
O.G.				
78' N =	203		15.4	499.2

7+40

535.07

0	= 125 N		5.2	529.9
6' N	= 131 N		5.5	529.6
		514.63		
35' N	= 160 N		2.4	512.2
50' N	= 175 N		2.2	512.4
0.G. 63' N	= 18.8 N		9.2	505.4
O.O. 67' N	= 19.2 N		10.9	503.7

7+50

535.07

	2.40	532.56	4.91	530.16
0-Edge	= 125 N		2.6	530.0
1' N =	126 N		2.6	530.0
		514.63		
32 N	= 157 N		2.0	512.6
47' N	= 17 2 N		1.8	512.8
57' N	= 18 2 N	0.G	7.3	507.3
0.G 62' N	187 N		9.8	504.8

7+60

		536.65		
2'5	= 123 N		6.7	530.0
Otoo	= 125 N	532.6	3.2	529.4
		514.63		
30' N	= 155 N		1.5	513.1
45 N	= 17 0 N		1.8	512.8
55 N	0.G = 18 0 N		5.8	508.8
61 N =	186 N		8.5	506.1

7+70

Otoo	= 125 N	532.6	5.4	527.2
		524.57		
28' N	= 153 N		11.1	513.4
43' N	= 168 N		11.4	513.1
55' N	= 18 0 N		16.4	508.1
		536.65		
85	= 117 N		6.6	530.1

	7+80	532.56		
0 =	125 N		8.0	524.6
195	= 106 N	536.65	6.6	530.1
		524.51		
25 N	= 150 N		10.3	514.2
40 N	= 165 N		10.6	513.9
49 N	= 174 N		13.4	511.1
55	= 180 N		15.2	509.3
915	= 34 N	7+90	6.7	530.8
245	= 101 N	536.65	10.2	526.6
0	= 125 N	532.56	11.3	521.3
		524.51		
20 N	= 145 N		9.3	515.2
38 N	= 163 N		10.5	514.0
50 N	= 175 N		13.1	511.4
		8+00		
0	= 125 N	532.56	14.2	518.4
		524.51		
33 N	= 158 N		10.3	514.2
58 N	= 175 N		12.3	512.1
		536.65		
505	= 75 N		13.7	523.0

	8+10	532.56		= 800 Sect.	
0 =	125 N		14.2	518.4	
		524.51			
33 N	= 158 N		9.3	515.2	
	6.99	537.81	-1.74	530.82	
			1.43	536.38	
	0.15	536.54 ✓		536.39 ✓	B.M. on dam
	0.06	524.51 ✓	12.09	524.45 ✓	
	1.34	514.63 ✓	11.22	513.29 ✓	
T.P.	3.20	507.68 ✓	10.15	504.48 ✓	
	13.08	520.32 ✓	0.44	507.24 ✓	
	11.84	530.66 ✓	1.50	518.82 ✓	
	4.61	535.08 ✓	0.19	530.47 ✓	
	0.24	536.65 ✓		536.39 ✓	B.M. on dam
	0.74	524.61 ✓	12.80	523.85 ✓	
	0.37	512.53 ✓	12.46	502.16 ✓	
	0.37	502.12	10.78	501.75 ✓	
	1.11	490.41	12.82	489.30	

		4904			
	1.22	479.69	11.94	478.47	
B.M. N.W. Cor box			3.42	476.67	476.0 ±

Reduced 2-9-48 CSH.

PROFILE & X-SECT. PROPOSED ROAD. CONT'D FROM PAGE 15.

		550.60			
P.C. 6+20.19	℄		-7.2	543.4 ✓	
	15 Rt.		-6.6	44.0 ✓	
	25 Rt.		-6.1	44.5 ✓	
	50 Rt.		-5.3	45.8 ✓	
	15 Lt		-8.1	42.5 ✓	IN DITCH
	25 Lt.		-7.6	43.0 ✓	
	50 Lt.		-8.6	42.0 ✓	
6+50	℄		-6.9	43.7 ✓	
	10.5 Rt.		-7.3	43.3 ✓	IN DITCH
	25 Rt		-6.4	44.2 ✓	
	50 Rt		-5.7	44.9 ✓	
	15 Lt		-7.8	42.8 ✓	
	25 Lt		-8.2	42.4 ✓	
	50 Lt.		-8.7	41.9 ✓	
		550.60			
6+67	℄		-6.0	544.6 ✓	
	12 Rt		-6.2	44.4 ✓	
	20 Rt		-7.0	43.6 ✓	IN DITCH
	25 Rt		-6.6	44.0 ✓	
	50 Rt		-6.0	44.6 ✓	
	9 Lt		-7.3	43.3 ✓	
	15 Lt		-7.7	42.9 ✓	
	25 Lt.		-8.0	42.6 ✓	
	50 Lt.		-8.7	41.9 ✓	
E.C. 6+77.84	℄		-5.4	45.2 ✓	
	20 Rt.		-5.4	45.2 ✓	
	26 Rt		-6.5	44.1 ✓	IN GUTTER
	44 Rt.		-6.0	44.6 ✓	
	60 Rt		-5.7	44.9 ✓	
	15 Lt.		-5.2	45.4 ✓	
	39 Lt		-5.3	45.3 ✓	
	54 Lt.		-8.8	41.8 ✓	
CHECK B.M.			-12.12	538.48 ✓ =	CONC. MON. 538.47

Final X sections of fill West of Regulating Reservoir Near 54" Valve Box

B.M.	1303	521.01	507.98
0-20	-00 sed.	7.8	13.2
50 N		13.5	
75 N		18.7	
0+00		6.8	514.2
23 N		9.0	512.0
30 N		5.8	515.2
59 N		5.5	515.5
75 N		17.0	504.0
0+50		3.8	517.2
61 N		5.2	515.8
76 N		16.7	505.3
1+00		2.0	519.0
60 N		5.8	515.2

King Baker Leonard 65

521.01

77 N		13.6	507.4

Reduced · 2-9-48 Cor

6-30-48 LEONARD NIENOW SHIPMAN

ALVARADO FILTRATION PLANT.
TOPOGRAPHY ALONG WEST PROPERTY LINE OF CITY.

0+00 = PROP. CORNER ON N. SIDE WYOMING AVE.

0+15 TO 0+35 BLACKTOP PAVING.

0+50.75 PROP. CORNER S. SIDE WYOMING

0+50 3 UMBRELLA TREE, TRUNK 1.5' W. OF PROP. LINE.
FENCE, WOOD 2' HIGH STARTS .4' W. OF PROP LINE

0+61 FENCE INTERSECTS PROP LINE

0+68 P.P. #277145, 5.5' E. OF PROP. LINE

0+92 CEMENT BLOCK WALL, 6" WIDE, 5½' HIGH, EXTENDS 1.5' E. OF PROP LINE. WOOD TRELLIS ON TOP OF WALL.

0+94.5 WOOD + WIRE FENCE 3½' HIGH, LIES 1.5 E. OF PROP LINE.

0+98 FLOWERS ALONG FENCE TO 1+80

1+21 LEMON TREE 4' W. OF PROP LINE.
1+39 " " 4' " " " "
1+57 PEACH " 3.5 " " " "
1+75 " " 4' " " " "

2.4 EAST OVER PROP LINE. WOODEN FENCE ENDS.

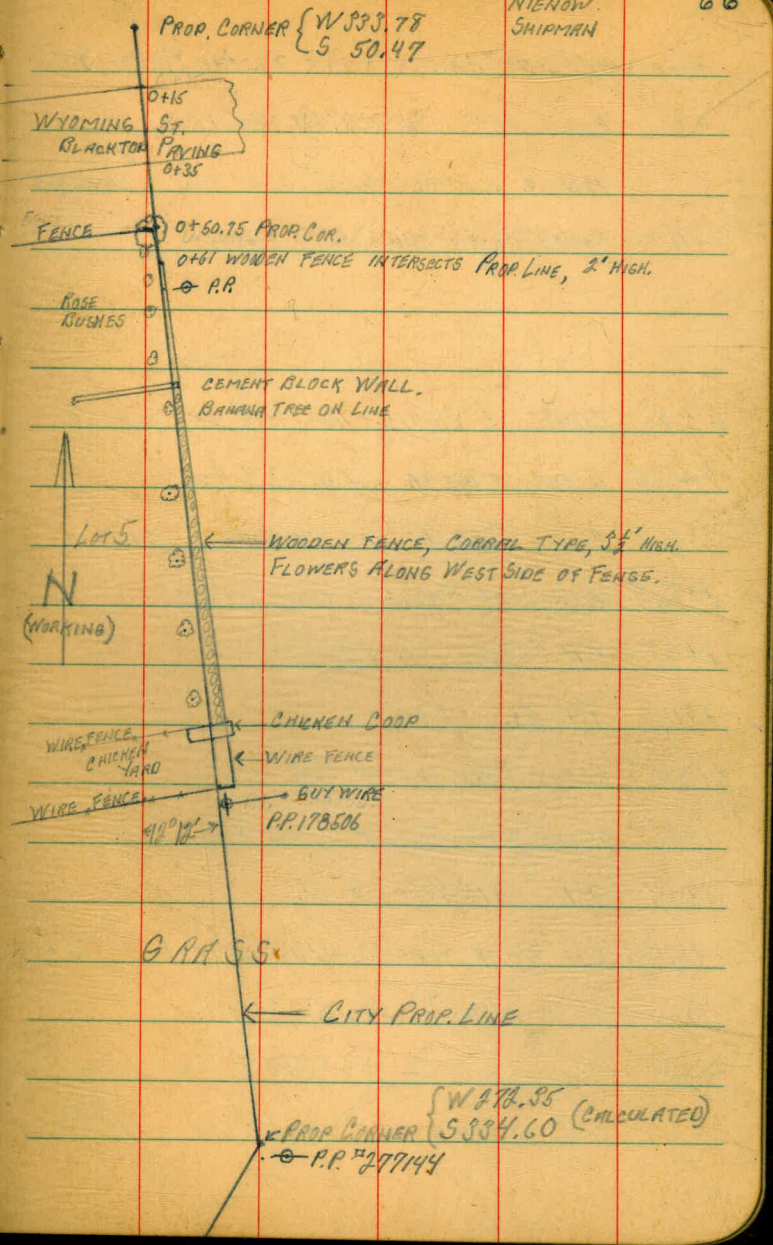
1+81 TO 1+84.5 CHICKEN COOP 10½ X 3½', 5' HIGH EXTENDS

1+98.5 WIRE FENCE ENDS 2.4 EAST OF PROP LINE, TURNS WEST. ANCHOR GUY WIRE 22.6' E. OF LINE

2+03 P.P. #178506, 1.3' E. OF PROP LINE.

2+20.35 L IN PROP LINE. END OF TOPO.

2+94 P.P. #277144, 6' E. OF PROP LINE EXTENDED



July 1, 1948 Leonard Nienow Shipman

Topography at East End of Filter Plant Site.

3+32 Angle in E. side of Pvmt. 38' Rt.

Paving extends 63.0' Lt. and to 41' on Rt. Kiowa Dr.

3+16 Top of slope and begin paving.

2+75 Edge of paving. Bottom of slope.

2+72 E. end of office bldg. 23.9 Lt.

2+27.8 Office Bldg. 28.4' Lt. to end of bldg.

2+14.5 Blacktop Paving extends 29' Lt.

2+13 P.P. # (No number) 1.8' Lt.

2+00 90° Rt.

1+38.5 Septic Tank center 44.5 Lt.

1+59 Water Pipe 10.2 Rt turns to Lt. to House

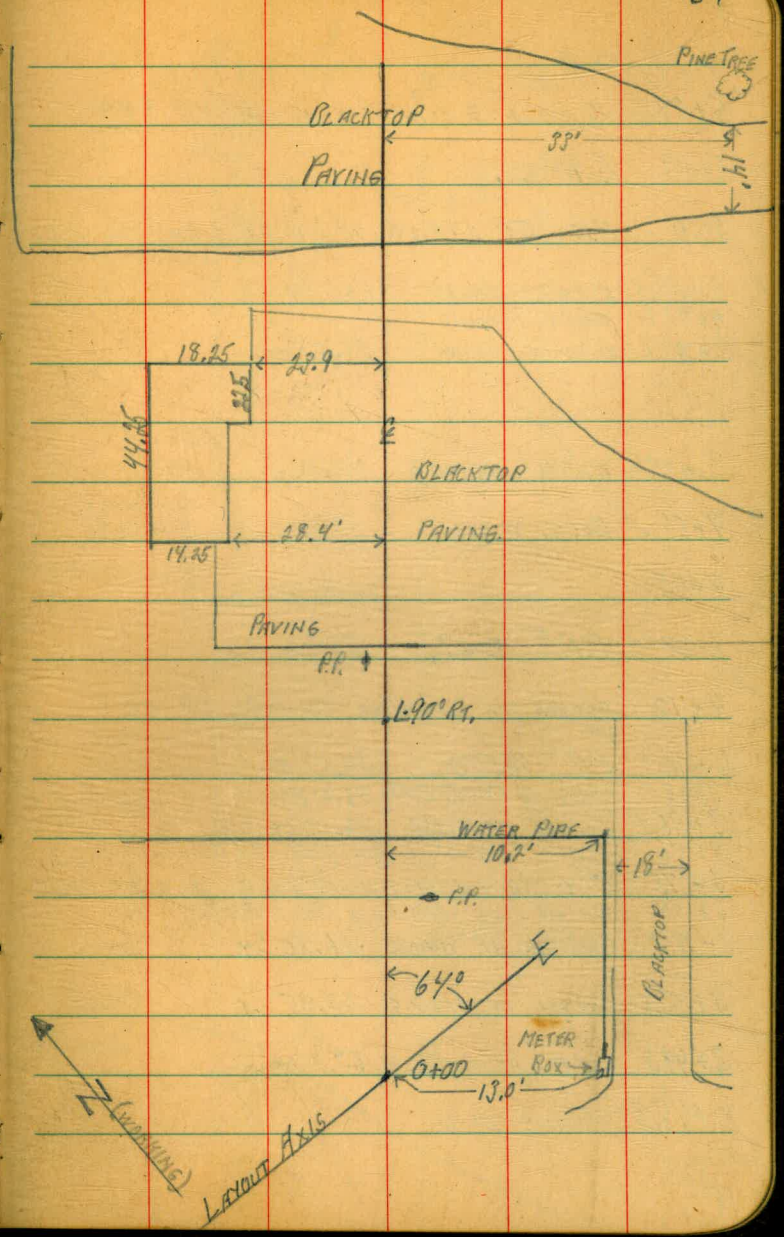
1+01 P.P. # 270592 4' Rt.

Meter Box, Water service to Dam Keeper's House. 13' Rt.

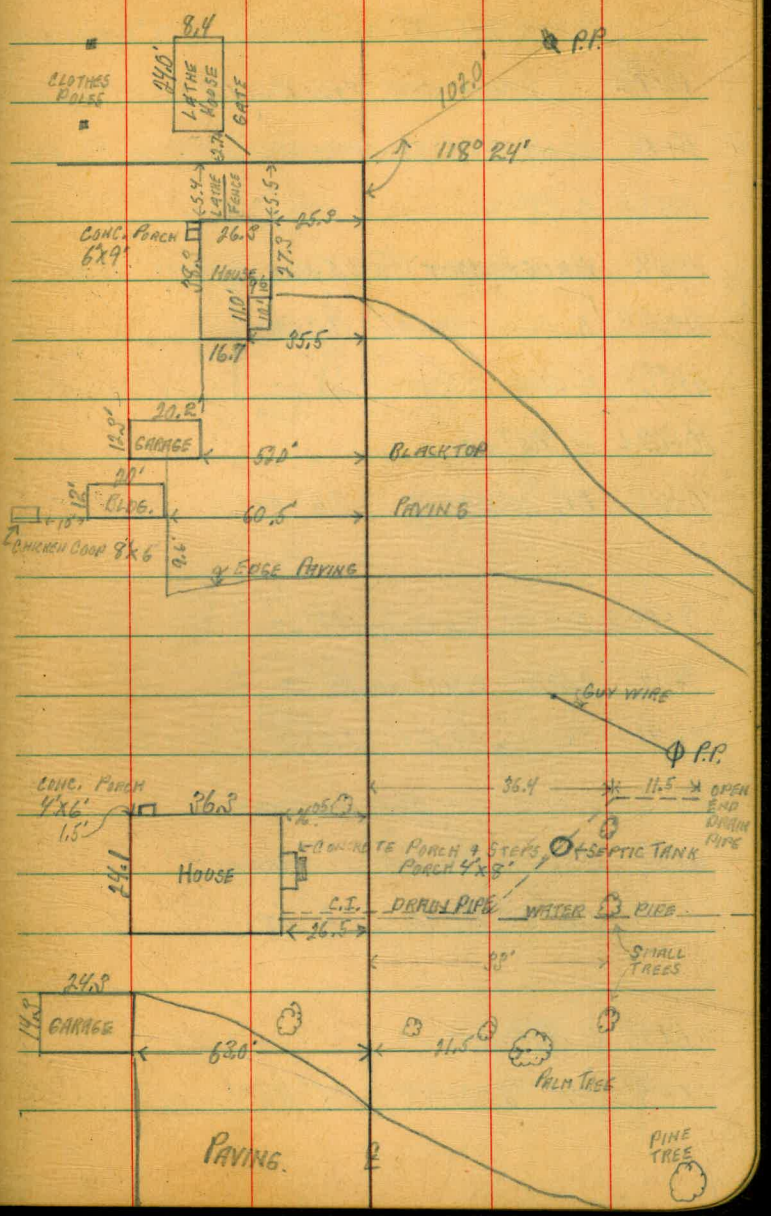
Blacktop paving 14' Rt, to 32' Rt.

0+00 = Conc. Mon. at 5+89.05 E. on Layout Axis

Mag. Bearing of Traverse Line = N. 18° W



5+94.5	CLOTHES POLES,	2.7 LT TO 28.7 LT.
5+78.5	S. EDGE LATHE HOUSE	2.7 LT. ? W.H.
5+30	∠ 90° LT.	
5+30	P.P. # JP 277190, at 118°24' TO BACK TAN, 102.0'	487128 H
5+24.4	E. EDGE HOUSE	25.3 LT.
4+93.1	EDGE PAVING	
4+86.1	W. EDGE HOUSE	35.5 LT.
4+68.5	W. EDGE GARAGE	52.0 LT.
4+51	BLDG., W. EDGE	60.5 LT.
4+43		
4+36	P.P. # E-69,	81.0' LT
4+12	ANCHOR FOR GUY WIRE TO P.P.,	27' RT.
4+06	P.P. # 76570,	98.5' RT.
3+98	ANGLE IN DRAIN PIPE	36.4 RT.
3+95.4	CORNER OF HOUSE	26.0 LT.
3+86	SEPTIC TANK ON DRAIN LINE,	24' RT
3+76	5" C.I. DRAIN FROM HOUSE,	10.5 RT, ANGLES EAST
3+74	WATER PIPE FROM HOUSE TO KIOWA DR.	
3+71.3	CORNER OF HOUSE	26.50 LT.
3+63.6	CORNER OF GARAGE	62.85 LT.
3+49.3	CORNER OF GARAGE	63.0 LT.
3+44.8	PAVING ENDS	



12+77.55 = STA 2+00 ON TRAVERSE, 0.08' LT. OF LINE

12+19.5 3" SEWER LINE FROM HOUSE TO SEPTIC TANK 61.5' RT

11+84 WATER LINE TO DAM KEEPERS HOUSE 45' RT.

11+83.6 L 90° LT.

11+76 WATER HYDRANT 1½" DIA. 2' ABOVE GROUND 18' RT.

11+58.4 S. EDGE HOUSE 9.0 LT.

11+24.5 N. EDGE OF HOUSE 9.4 LT.

10+63.6 L 90° LT.

10+22 P.P. # JP 277193 7.6' RT

9+09.5 SEPTIC TANK COVER 39' LT

9+04 SEPTIC TANK COVER 39' LT.

8+91 TOILETS; 4.8X4.4 2.0' LT., 23' LT. & SHED 47' LT.

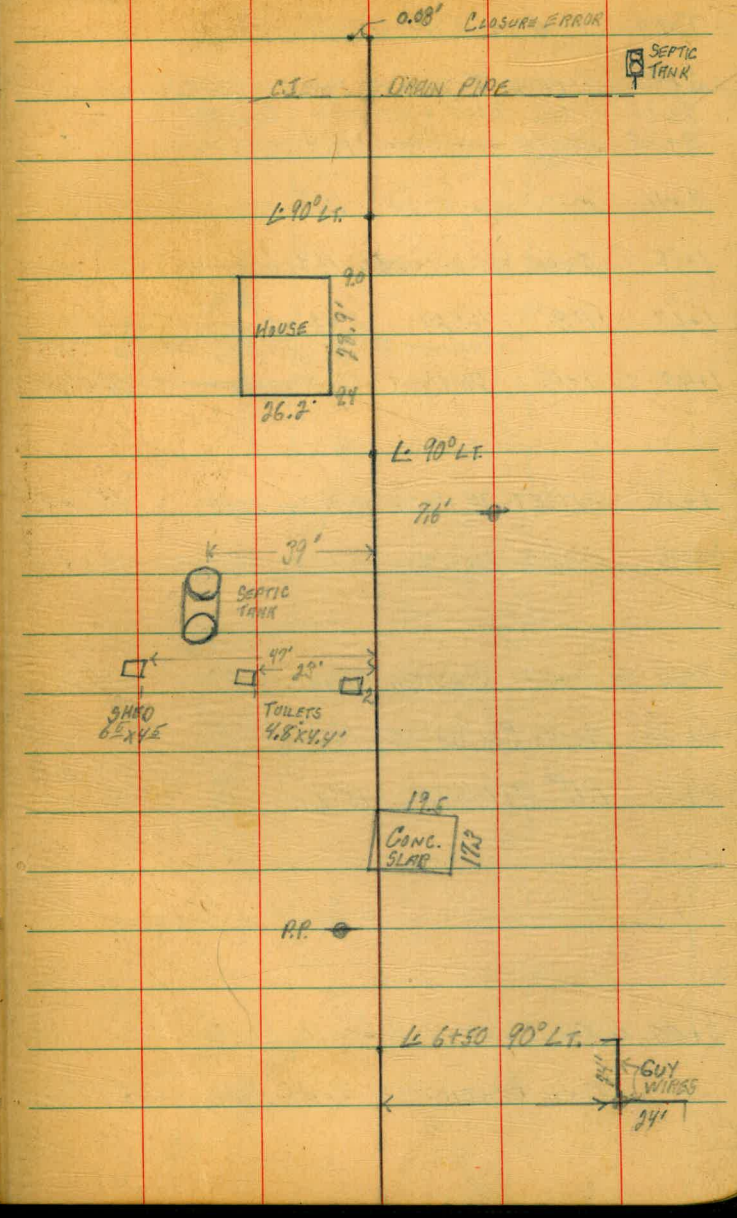
8+69.5 W. EDGE OLD CONC. FOUNDATION.

8+57 E. EDGE OLD CONC. FOUNDATION

8+04 P.P. # JP 277194, 85' LT.

6+50 L 90° LT.

6+39 P.P. # JP 277191; 49' RT. GUYED 2 WAYS



ALVARADO FILTRATION PLANT. 7-2-48 LEONARD - NOTES NIENOW - " SHERMAN - CHAIN

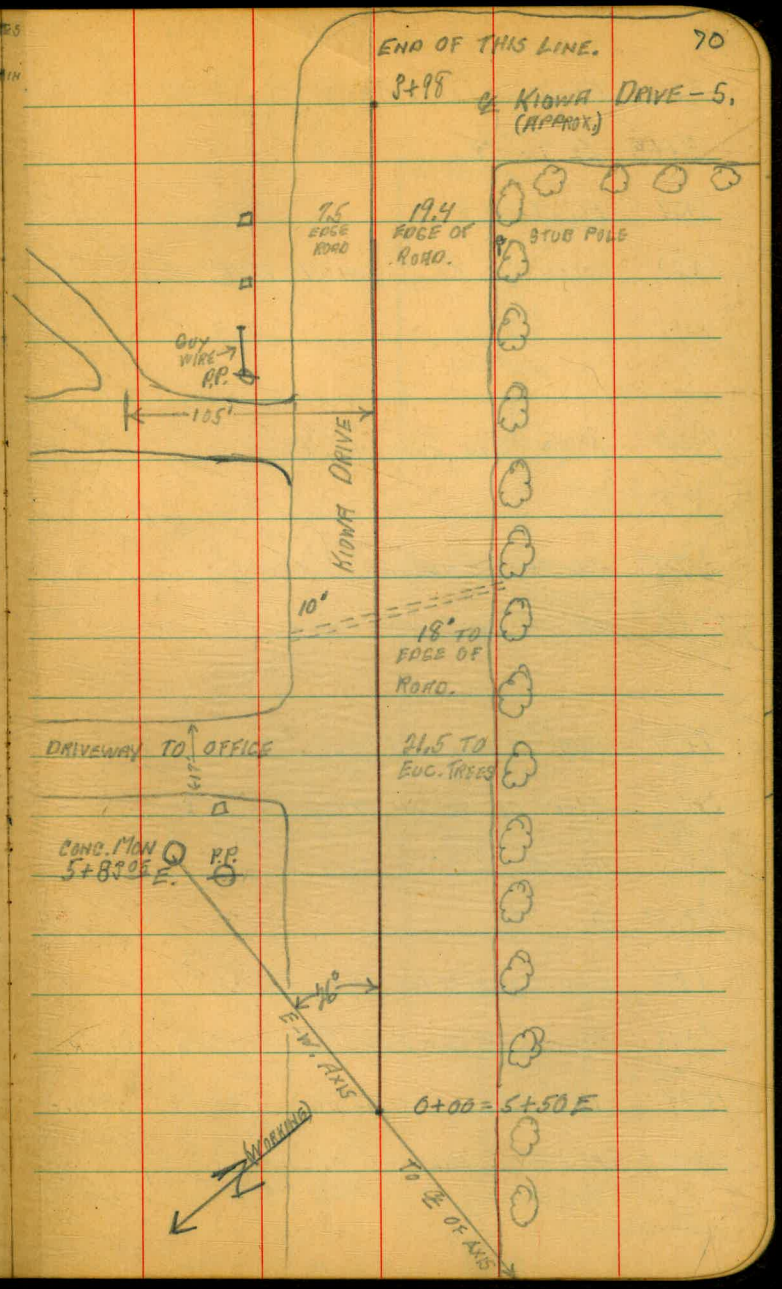
TOPO SE ALONG KIOWA DRIVE.

3+98	APPROX ℄ KIOWA DRIVE SOUTH.		
3+36	STUB POLE & GUY WIRE	20.7 RT.	
3+29	METER BOX, WATER	14.9 LT.	
2+16	METER BOX, WATER	15.8 LT.	
1+98	ANCHOR FOR GUY WIRE,	14.8 LT.	
1+67	P.P.# 76569 TURNOUT TO BROWN'S RES,	14.8' LT. 105 TO CENTER	
1+48 TO	1+64 DRIVEWAY TO HOUSES,		10' LT.
1+60	OUTLET OF CORR. IRON CULVERT,		18' RT.
0+87	INLET CORR. IRON CULVERT.	12" DIA.	10' LT.
0+53 TO	0+70 BLACKTOP PAVING		10' LT.
0+52	METER BOX, WATER	18.3 LT.	
0+33	P.P.# P174082,	15' LT.	

See Page 73

0+00 = 5+50 E. ON PLANT L.O. AXIS.

MAG. BEARING OF TRAVERSE LINE = N 72° E



ALVARADO FILTRATION PLANT.

TOPO AROUND DAM KEEPER'S QUARTERS.

5+60 ℄ 92° Rt.

5+34 EUC. TREE 8' Lt.

5+20 HEDGE 9.5' Rt. TO CENTER, CURVES RT.

4+60 PEPPER TREE 3' DIA. 14' Rt.

4+28.3 CENTER OF 4' SIDEWALK 7.8' Rt. TO END.

4+17 SW COR. DAM KEEPERS HOUSE 33.7' Rt.

4+01 END OF WOODEN BRIDGE.

3+88 FLAG POLE, IRON PIPE, 22.5' Rt.

3+79 START OF WOODEN BRIDGE OVER DITCH.

3+63 PALM TREE AND STONE WALL CIRCLE 51' Rt.

3+38 HEDGE, 7' Rt TO CENTER

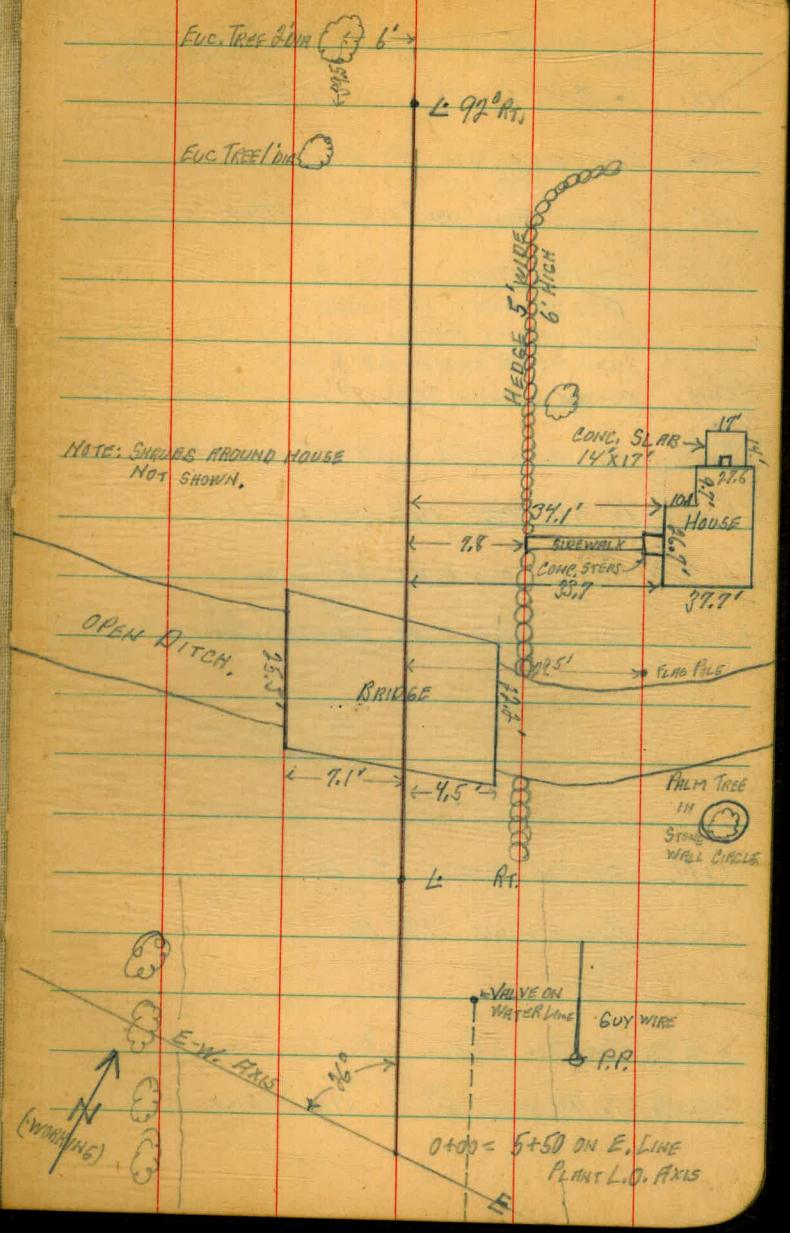
2+80 ℄ Rt.

1+16 LAST EUCALYPTUS TREE 21.3 Lt.

1+15 END OF WATER PIPE 8.5 Rt., ALONG KIAWA DR.

1+04 P.P. #76574 15' Rt. LAST POLE IN LINE

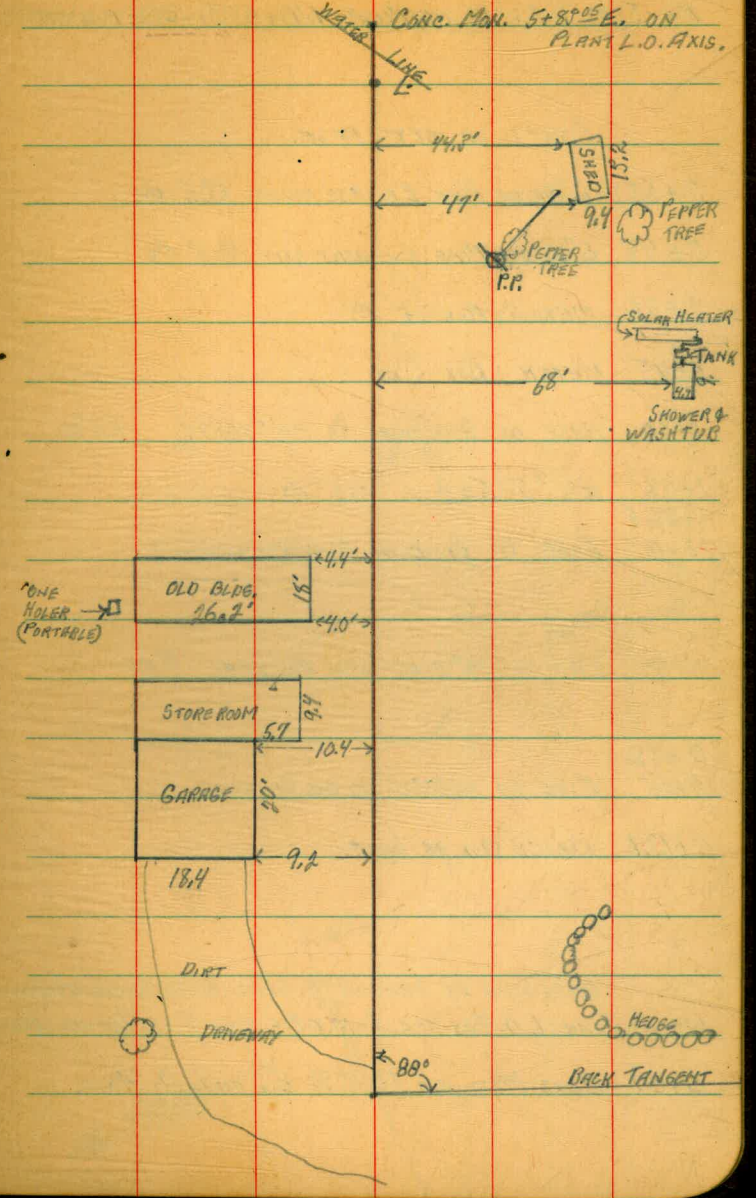
0+00 = 5+50 ON E. LINE OF PLANT L.O. AXIS.
MAG. BEARING OF TRAVERSE LINE IS S 72° W.



10+37.55 END OF TRAVERSE AT CONC. MON. S 85° 05' E.
8+12 CROSS WATER LINE TO DAM KEEPERS HOUSE
8+00 L 48° 51' 15" LT. TO MON. ON AXIS LINE.
7+92 BASE OF GUY WIRE 33' RT.
OPEN SIDES.
7+89 COVERED TOOL SHED # 6705, 47' RT. TO N.E. COR.
7+77 P.P. JP 77250 19.3 RT
YARD OF HOUSE TO NUMEROUS TO DETAIL.
SMALL TREES, SHRUBS, AND VINES ALL OVER
SOLAR WATER HEATER AT S. END.
7+45 OUTDOOR SHOWER SHACK 9' LONG 4.7' WIDE 68' RT.
7+26 1½" WATER PIPE & FAUCET 1' HIGH 0.3' RT.
7+00 L 88° RT. MAG. BEARING S 18° E.
6+78 S.E. COR. OLD BLDG. 4.4' LT.
6+60 S.W. COR. OLD BLDG. FORMERLY CHICKEN COOP. 4' LT.

6+19.5 S.W. COR. GARAGE 9.2' LT.
6+06 HEDGE ENDS 18' RT.

5+67.6 EUC. TREE 1.5' DIA. 32.5 LT.
5+60 L 92° RT. MAG. BEARING N. 74° E.



7-9-88 LEONARD NIENOW SHIPMAN.

RE-TOPO S.E. ALONG KIOWA DRIVE TO CHECK WORK SHOWN ON PAGE 70. NOTE DIFFERENT 0+00 POINTS.

CONT'D ON NEXT PAGE.

3+50.7 6" VALVE PIPE ENCASEMENT 13.5 RT.

3+48 6" VALVE PIPE ENCASEMENT 11.5 RT.

2+92 METER BOX 4' RT

1+78 METER BOX 3' RT

1+60 BASE OF GUY WIRE TO P.P. #76569, 4.5' RT.

1+29 P.P. #76569 4.5' RT

1+26.5

1+10 ROAD TO RESIDENT ENG'S. HOUSE.

0+48 END OF 18" CORR. IRON CULVERT 9' RT.

0+32

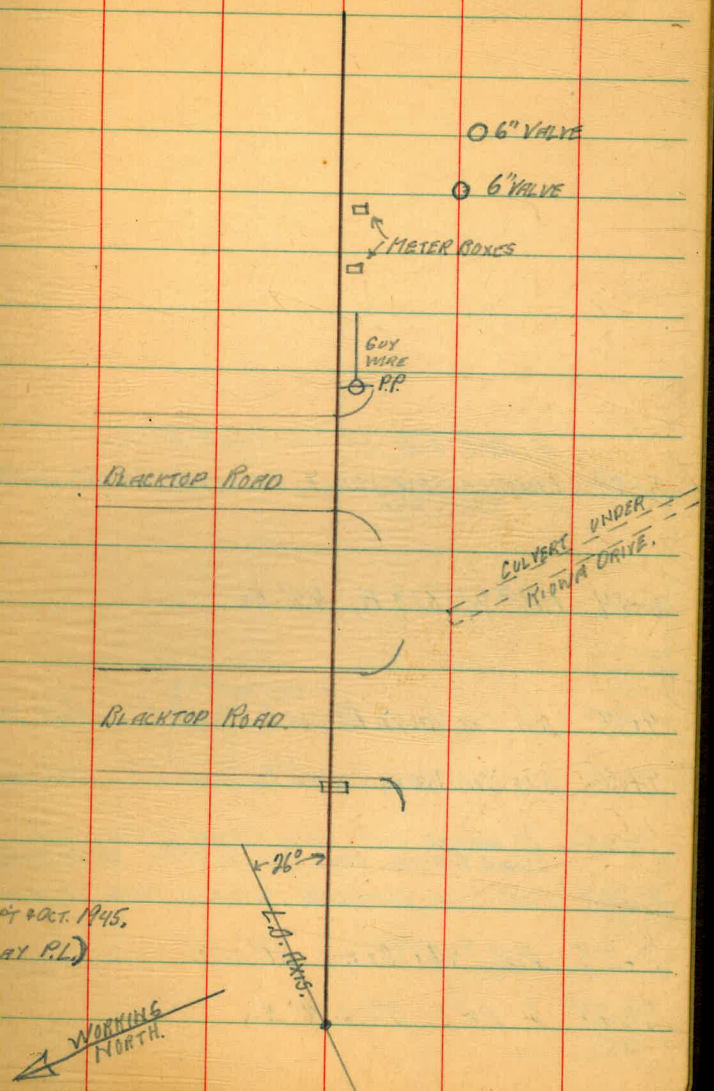
0+14 ROAD TO OFFICE BLDG.

0+13.1 METER BOX ON LINE.

BASE LINE OF ORIGINAL X-SECT. WORK TAKEN BY KING IN SEPT & OCT. 1945.

NOTE: PLANT L.O. AXIS STA. 5+10.07 = STA. 8+25.85 ON (EOL. - MURRAY P.L.)

0+00 = CONC. MON. AT 5+85.05 E. ON L.O. AXIS.



E. PROP. LINE OF NEW KIOWA DRIVE.

5+79 LINE OF NEW FENCE, EXTENDED, BUILT ALONG

5+14 P.P.# 487868 H, 42' Rt.

4+74 S.E. COR VALVE BOX ON EL MONTE P.L. 13.3 Lt.

4+66 S.W. COR. VALVE BOX ON EL MONTE P.L. 14.8 Lt.

4+00.3 2" WATER PIPE FROM METER CROSSES LINE KIOWA DRIVE. PROP. COR. 41.4' Rt. FENCE CORNER 1' Rt.

3+79.3 PROP. LINE, EXTENDED, ALONG E. SIDE OF OLD

3+78 P.P. # 487128 H, 111' Lt.

3+77 2 P.P.'s. 38' & 40' Rt.

END OF TOPO.

LINE OF SIGHT OVER NEW FENCE LINE

P.P.

OLD WIRE FENCE IN POOR SHAPE.

13.3

Box

14.8

METER BOX 7.7' Rt.

PROP COR. IRON PIPE & CAP.

METER BOX

41.4'

ϕ P.P.

ϕϕ P.P.'s.

CONT'D FROM PAGE 79.					
		550.60			
5+87	℄		-6.2	544.4	CENTER ROAD
	15RT		-5.4	45.2	"
	25RT		-4.8	45.8	"
	15LT		-6.8	43.8	"
	25LT		-7.3	43.3	"
5+96	℄		-6.4	44.2	GUTTER ROAD
	15RT		-5.6	45.0	
	25RT		-5.1	45.5	
	15LT		-7.0	43.6	
	25LT.		-7.5	43.1	
6+00	℄		-6.7	43.9	
	15RT		-6.0	44.6	
	25RT		-5.5	45.1	
	15LT		-7.4	43.2	
	25LT.		-7.7	42.9	
6+00.8	ON TOP PIPE		-7.2	43.4	1" W. LINE
CONT'D ON LEFT SIDE PAGE 64.					

APRIL 6, 1949 LEONARD CARVER-R. PAYNE-R 75

FILTER PLANT. ROAD, KIOWA DR. TO SCALE. TRUCK

PROFILE	OVER	PROPOSED			
					CONC. MON. SEE.
B.M.	+4.07	542.54		538.47	
T.P.	+12.0R	H.I. 546.25	-7.73	534.81	ROCK
0-50	℄		-10.8	36.0	
"	15RT		-10.6	36.2	
"	15LT.		-11.4	35.4	
0-25	℄		-10.1	36.7	
"	15RT.		-9.9	37.1	
"	15LT		-11.2	35.6	
"	20LT		-11.4	35.4	
"	25LT		-12.2	34.6	
0+00	℄		-8.9	37.9	
	15RT		-8.1	38.7	
	25 RT		-7.5	39.3	
	15LT		-9.5	37.3	
	25LT		-10.0	36.8	
0+25	℄		-6.7	40.1	
	15RT		-5.8	41.0	
	25RT		-4.5	42.3	

SEE PAGE 63 OF F.B. 734 FOR ALIGNMENT.

		546.83		
0+25	15 LT		-8.0	538.8
"	25 LT.		-8.8	38.0
0+50	℄		-5.4	41.4
"	15 RT.		-4.4	42.4
"	25 RT		-3.8	43.0
"	15 LT		-7.1	39.7
"	25 LT.		-8.0	38.8
0+75	℄		-5.4	41.4
"	15 RT		-4.1	42.7
"	25 RT.		-3.4	43.4
"	15 LT		-5.9	40.9
"	25 LT.		-6.9	39.9
1+00	℄		-5.4	41.4
"	15 RT.		-4.8	42.0
"	25 RT.		-4.5	42.3
"	15 LT.		-6.1	40.7
"	25 LT.		-6.7	40.1

		546.83		
1+25	℄		-5.6	541.2
	15 RT.		-5.1	41.7
	25 RT.		-3.9	42.9
	15 LT		-5.9	40.9
	25 LT.		-6.2	40.6
E.C. 1+42.32	℄		-5.2	41.6
	15 RT.		-4.6	42.2
	25 RT.		-3.6	43.2
	15 LT.		-5.7	41.1
	25 LT.		-6.2	40.6
1+50	℄		-5.1	41.7
	15 RT.		-4.2	42.6
	25 RT.		-3.3	43.5
	15 LT.		-5.4	41.4
	25 LT.		-6.0	40.8
1+70	℄		-4.7	42.1
	15 RT		-4.0	42.8
	25 RT		-3.2	43.6

		546.8?		
1+70	15LT		-5.1	541.7 ✓
"	25LT		-5.6	41.2 ✓
1+73.5	TOP 2" W.L.		-4.8	42.0 ✓
"	GROUND		-4.6	42.2 ✓
1+82	℄		-4.4	42.4 ✓
	15RT		-3.7	43.1 ✓
	25RT		-3.9	43.9 ✓
	15LT		-5.0	41.6 ✓
	25LT		-5.6	41.2 ✓
2+00	℄		-3.7	43.1 ✓
	15RT		-3.0	43.8 ✓
	25RT		-2.0	44.8 ✓
	15LT		-4.4	42.4 ✓
	25LT		-4.9	41.9 ✓
T.P.	+8.90	554.62 ✓	-1.11	545.72 ✓ ROCK.
2+50	℄		-9.3	45.3 ✓
	15RT		-8.4	46.2 ✓
	25RT		-7.3	47.3 ✓

		554.62		
2+50	15LT		-10.2	544.4 ✓
"	25LT		-10.8	43.8 ✓
3+00	℄		-7.7	46.9 ✓
	15RT		-6.0	48.6 ✓
	25RT		-4.8	49.8 ✓
	15LT		-8.4	46.2 ✓
	25LT		-9.3	45.3 ✓
3+05	TOP W.L.		-8.2	46.4 ✓
3+50	℄		-6.1	48.5 ✓
	5RT		-5.4	49.2 ✓
	15RT		-3.8	50.8 ✓
	25RT		-1.7	52.9 ✓
	15LT		-7.5	47.1 ✓
	25LT		-8.3	46.3 ✓
4+00	℄		-4.6	50.0 ✓
	3RT		-4.2	50.4 ✓
	7RT		-3.1	51.5 ✓
	15RT		-1.8	52.8 ✓
	25RT		+0.1	54.7 ✓

		554.62			
4+00	15 LT.		-6.5	548.1	
	25 LT.		-7.5	47.1	
T.P.	+8.55	557.22	-5.95	548.67	NAIL IN PVMT. P.O.T. 4+87.68
4+10	℄		-7.4	49.8	
	6 RT.		-6.4	50.8	
	15 RT.		-5.3	51.9	
	25 RT.		-3.4	53.8	
	15 LT		-9.1	48.1	
	25 LT		-10.1	47.1	
4+33	ON GD.		-7.7	49.5	
4+38.5	ON 1" PIPE		-8.4	48.8	
4+50	℄		-8.1	49.1	
	8 RT.		-7.0	50.2	
	18 RT	ON PVMT	-5.5	51.7	
	31 RT	ON PVMT	-4.8	52.4	
	15 LT		-9.4	47.8	
	25 LT.		-10.5	46.7	
4+60	℄		-8.2	49.0	

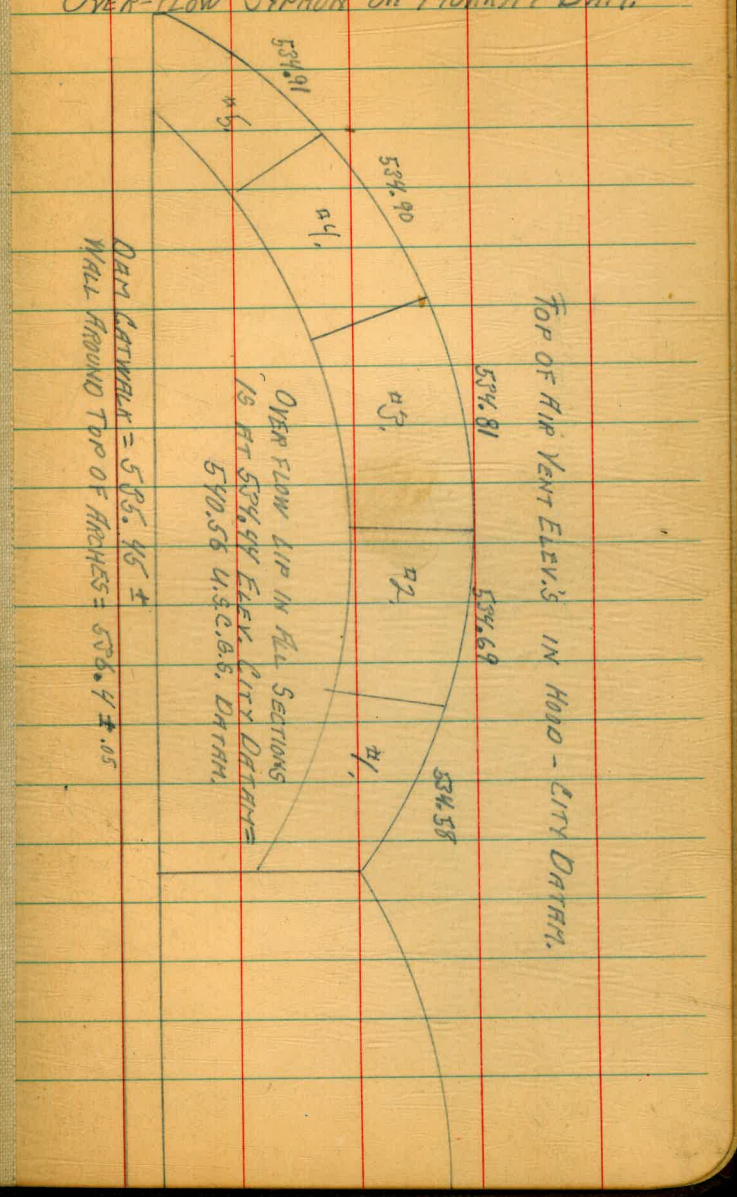
		557.22			
4+64.5	℄		-8.0	549.2	EDGE OF PVMT.
	24 RT		-6.1	61.1	EDGE PVMT.
	27 RT		-4.8	52.4	
	6 LT		-8.9	48.3	
	15 LT		-9.6	47.6	
	25 LT		-10.6	46.6	
4+76	℄		-8.6	48.6	ON PVMT
	17 RT		-7.2	50.0	RETURN ON PVMT
	21 RT		-5.9	51.3	TOP CURB
	30 RT.		-4.9	52.3	
	15 LT		-10.1	47.1	GUTTER
	25 LT		-11.1	46.1	"
4+85.65	℄		-8.5	48.7	ON ROAD
	15 RT		-7.2	50.0	"
	25 RT		-6.2	51.0	"
	40 RT		-4.6	52.6	"
	16 LT		-10.0	47.2	"
	25 LT.		-11.0	46.2	"
	40 LT.		-12.6	44.6	"

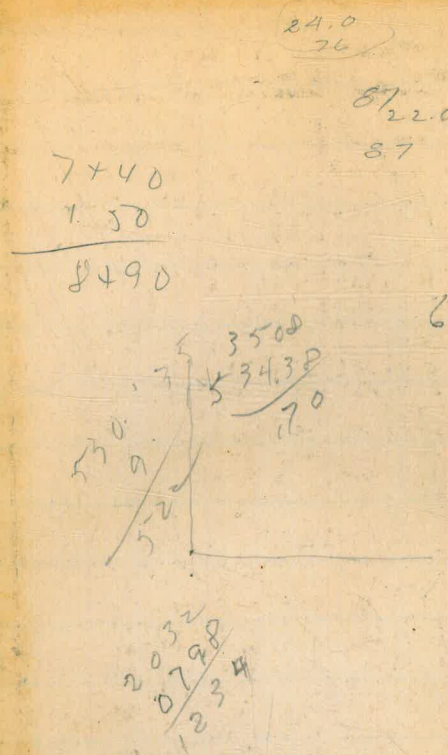
		557.82			
4+91	℄		-8.5	548.7	W. EDGE ROAD
4+96	℄		-9.7	47.5	
"	15 RT		-8.1	49.1	
"	25 RT		-7.0	50.2	
"	15 LT		-10.5	46.7	
"	25 LT		-11.3	45.9	
"	40 LT.		-12.9	44.3	
T.P.	+5.40	550.60	-12.02	545.20	ROCK.
5+50	℄		-5.3	45.3	
	15 RT		-4.3	46.3	
	25 RT.		-3.5	47.1	
	15 LT.		-6.2.	44.4	
	25 LT.		-6.4	44.2	
5+78	℄		-6.4	44.2	EDGE ROAD
	15 RT		-5.4	45.2	"
	25 RT		-4.9	45.7	"
	15 LT		-7.0	43.6	"
	25 LT.		-7.4	43.2	"

CONT'D, LEFT SIDE PAGE 75.

6-30-48 LEONARD NIENOW SHIRMAN

OVER-FLOW SYPHON ON MURRAY DAM.





DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

Roadway 16 feet wide. Side Slopes 1 on 1½

For Single Track Embankment.

H	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	H
0	8.0	8.2	8.3	8.5	8.6	8.8	8.9	9.1	9.2	9.4	0
1	9.5	9.7	9.8	10.0	10.1	10.3	10.4	10.6	10.7	10.9	1
2	11.0	11.2	11.3	11.5	11.6	11.8	11.9	12.1	12.2	12.4	2
3	12.5	12.7	12.8	13.0	13.1	13.3	13.4	13.6	13.7	13.9	3
4	14.0	14.2	14.3	14.5	14.6	14.8	14.9	15.1	15.2	15.4	4
5	15.5	15.7	15.8	16.0	16.1	16.3	16.4	16.6	16.7	16.9	5
6	17.0	17.2	17.3	17.5	17.6	17.8	17.9	18.1	18.2	18.4	6
7	18.5	18.7	18.8	19.0	19.1	19.3	19.4	19.6	19.7	19.9	7
8	20.0	20.2	20.3	20.5	20.6	20.8	20.9	21.1	21.2	21.4	8
9	21.5	21.7	21.8	22.0	22.1	22.3	22.4	22.6	22.7	22.9	9
10	23.0	23.2	23.3	23.5	23.6	23.8	23.9	24.1	24.2	24.4	10
11	24.5	24.7	24.8	25.0	25.1	25.3	25.4	25.6	25.7	25.9	11
12	26.0	26.2	26.3	26.5	26.6	26.8	26.9	27.1	27.2	27.4	12
13	27.5	27.7	27.8	28.0	28.1	28.3	28.4	28.6	28.7	28.9	13
14	29.0	29.2	29.3	29.5	29.6	29.8	29.9	30.1	30.2	30.4	14
15	30.5	30.7	30.8	31.0	31.1	31.3	31.4	31.6	31.7	31.9	15
16	32.0	32.2	32.3	32.5	32.6	32.8	32.9	33.1	33.2	33.4	16
17	33.5	33.7	33.8	34.0	34.1	34.3	34.4	34.6	34.7	34.9	17
18	35.0	35.2	35.3	35.5	35.6	35.8	35.9	36.1	36.2	36.4	18
19	36.5	36.7	36.8	37.0	37.1	37.3	37.4	37.6	37.7	37.9	19
20	38.0	38.2	38.3	38.5	38.6	38.8	38.9	39.1	39.2	39.4	20
21	39.5	39.7	39.8	40.0	40.1	40.3	40.4	40.6	40.7	40.9	21
22	41.0	41.2	41.3	41.5	41.6	41.8	41.9	42.1	42.2	42.4	22
23	42.5	42.7	42.8	43.0	43.1	43.3	43.4	43.6	43.7	43.9	23
24	44.0	44.2	44.3	44.5	44.6	44.8	44.9	45.1	45.2	45.4	24
25	45.5	45.7	45.8	46.0	46.1	46.3	46.4	46.6	46.7	46.9	25
26	47.0	47.2	47.3	47.5	47.6	47.8	47.9	48.1	48.2	48.4	26
27	48.5	48.7	48.8	49.0	49.1	49.3	49.4	49.6	49.7	49.9	27
28	50.0	50.2	50.3	50.5	50.6	50.8	50.9	51.1	51.2	51.4	28
29	51.5	51.7	51.8	52.0	52.1	52.3	52.4	52.6	52.7	52.9	29
30	53.0	53.2	53.3	53.5	53.6	53.8	53.9	54.1	54.2	54.4	30
31	54.5	54.7	54.8	55.0	55.1	55.3	55.4	55.6	55.7	55.9	31
32	56.0	56.2	56.3	56.5	56.6	56.8	56.9	57.1	57.2	57.4	32
33	57.5	57.7	57.8	58.0	58.1	58.3	58.4	58.6	58.7	58.9	33
34	59.0	59.2	59.3	59.5	59.6	59.8	59.9	60.1	60.2	60.4	34
35	60.5	60.7	60.8	61.0	61.1	61.3	61.4	61.6	61.7	61.9	35
36	62.0	62.2	62.3	62.5	62.6	62.8	62.9	63.1	63.2	63.4	36
37	63.5	63.7	63.8	64.0	64.1	64.3	64.4	64.6	64.7	64.9	37
38	65.0	65.2	65.3	65.5	65.6	65.8	65.9	66.1	66.2	66.4	38
39	66.5	66.7	66.8	67.0	67.1	67.3	67.4	67.6	67.7	67.9	39
40	68.0	68.2	68.3	68.5	68.6	68.8	68.9	69.1	69.2	69.4	40

Example—If point is 22.6 ft. above grade, how far should it be from center line to be a slope stake point? Ans. from Table 41.9. For same slopes but other widths of roadbed correct above figures by one-half difference in width of roadbed; thus in example above for 20 ft. roadbed distance will be 41.9+(20—16)÷2 or 2 ft. added to 41.9 =43.9. For slopes of 1 on 1 see inside of front cover.